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ABBREVIATIONS USED IN "SELECTED ABSTRACTS" - Series II, No. 4

Biul. eksp. biol.	Biulleten' eksperimental'noi biologii i meditsiny
Gig. i san.	Gigiena i sanitariia
Med. parazit.	Meditsinskaia parazitologiya i parizarnye bolezni
Sov. med.	Sovetskaia meditsina
Vest. AMN	Vestnik Akademii meditsinskikh nauk SSSR
Vop. virus.	Voprosy virusologii
Zh. mikrobiol.	Zhurnal mikrobiologii, epidemiologii i immunobiologii

Institutions

AMS	Academy of Medical Sciences
ATP	Advanced Training of Physicians
IEM	Institute of Epidemiology and Microbiology
MH	Ministry of (Public) Health
MI	Medical Institute
NIVS	Scientific Research Veterinary Station
SR	Scientific Research
SRI	Scientific Research Institute
USSR	Union of Soviet Socialist Republics
VIEW	All-Soviet Institute of Experimental Veterinary

561. Leont'ev, A. I., An accelerated method of the diagnosis of tularemia in rodent carcasses.
Zh. mikrobiol. (1963) 11: 146.

In this brief note the method of luminescent microscopy is recommended for the rapid diagnosis in rodent carcasses. Ample trials of this procedure in experimentally infected mice gave invariably positive results.

562. Deviatka, D. G. and Alycheva, I. S., Role of natural ultraviolet irradiation on the increase of the immunobiological reactivity of the body.
Zh. mikrobiol. (1963) 10: 43-46.
(From the Vinnitsa and the L'vov medical institutes.)

The investigations of the authors showed that rabbits which were exposed to the action of sunlight showed more marked reactions to immunization with killed B. enteritidis Gaertneri cultures than a control group, kept protected against the light of the sun.

563. Vygorodchikov, G. V. et al., Experimental study of the immunogenic properties of combined anaerobic anatoxins. Report V. Immunogenic properties of combined polytoxoid in the primary immunization of animals.
Zh. mikrobiol. (1963) 10: 51-58.
(From the Gamaleia IEM, AMS, USSR.)

As shown by the authors, it was possible to immunize experimental animals simultaneously with perfringens, oedematiens, tetanus and botulinus anatoxins and with typhoid and paratyphoid B antigens.

564. Ignat'ev, G. B. et al., Immunological efficacy of a pertussis-diphtheria-tetanus vaccine.
Zh. mikrobiol. (1963) 10: 58-62.
(From the Moscow IEM and the Sanitary-Epidemiological Station of the Leningrad Raion in Moscow.)

The authors concluded from tests on 232 children that

- "1. The diphtheria and tetanus components of the pertussis-diphtheria-tetanus vaccine possess a sufficient immunological efficacy.

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2. Immunization with this vaccine does not result in the accumulation of anti-pertussis agglutinins in the sera of the vaccinated children."

565. Borodko, S. L. and Samsonovich, L. G., Duration of the immunity in persons immunized simultaneously by the cutaneous route against plague, tularemia and brucellosis.

Zh. mikrobiol. (1963) 10: 70-74.

(From the Elista Anti-Plague Station.)

The authors recorded observations on (a) 15 persons inoculated with a plague vaccine produced in the Anti-Plague Institute at Rostov-on-Don; (b) 8 persons immunized with a tularemia vaccine manufactured in the Odessa IEM; (c) 15 persons receiving a brucellosis vaccine obtained from the Gamaleia Institute and (d) 52 persons simultaneously immunized with all three vaccines. The conclusions reached were that

"1. Combined vaccination against plague, tularemia and brucellosis, performed cutaneously in the doses indicated on the labels for each vaccine, did not cause severe reactions.

2. In all groups of the inoculated the number of local reactions was higher than that of general reactions. The local and general reactions were more often of a slight or medium degree.

3. The blood of the persons vaccinated either by the combined method or with the corresponding monovaccines showed no abnormalities.

4. In the combinedly vaccinated persons an immunity against all vaccines was produced, the intensity of which was almost equal with the intensity of the immunity in the individuals receiving the corresponding monovaccines.

5. In the persons inoculated either with the combined vaccine or with the monovaccines, the intensity of the immunity became lowered after 10 months, as shown by the agglutination titers in their sera. The decrease of the intensity of the immunity was more marked in the persons inoculated with the combined vaccine."

566. Morozova, V. P., Search for methods to stimulate the anti-leptospirosis immunity in irradiated animals. Zh. mikrobiol. (1963) 10: 75-79.
(From the Voronezh MI.)

This article can be quoted by title only.

567. Emel'ianova, O. S. et al., Approval of the improved tularemia diagnosticum. Zh. mikrobiol. (1963) 10: 85-92.
(From the Gamaleia IEM, AMS, USSR; the Odesk Institute of Diseases with Natural Foci; the Anti-Plague Institute of the Caucasus and Transcaucasus, and the Voronezh; Leningrad; Volgograd; Tula Sanitary Epidemiological Stations.)

As stated in the introduction to this article Emel'ianova reported in an article published in 1962 (see Abstract No. 697, No. 11) that a diagnosticum prepared from the attenuated culture No. 7 of the American tularemia strain Schu gave better experimental results than the hitherto used antigen for agglutination tests. As recorded by Emel'ianova and her associates (1961),* tests with the sera of 67 persons who had suffered from tularemia or had been immunized against it gave 60 positive results in agglutination tests with the new diagnosticum as against only 38 in the case of the formerly used preparation.

In order to make further large-scale tests, the Gamaleia Institute prepared two series of antigens, No 3 from the above mentioned attenuated culture and No. 4 from the virulent strain Schu, which were sent for approval to the institutions enumerated in the sub-title of the present review. Diagnostica prepared from Soviet strains in the Mechnikov IEM at Odessa were used for control purposes.

The results obtained with these three kinds of antigens may be briefly stated thus:

(Table on the next page)

The conclusions reached by the authors were that

"1. Agglutination tests with 1,056 sera of persons vaccinated against tularemia or recovered from this disease showed that

* Emel'ianova, O. S. et al., Tezisy doklady mezhveblastnoi nauchno-prakticheskoi konf. po prirodnoochag. infektsiiam, Leningrad (1961): 164.

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	<u>Total Number of Tests</u>	<u>Positive with the Diagnosticum No. 3</u>	<u>Results No. 4</u>	<u>Odessa</u>
A. Persons vaccinated against tularemia	946 (Mean titers:	848 1:45	886 1:57	713 1:21)
B. Persons who suffered or had suffered from tularemia	110 (Mean titers:	107 1:146	106 1:183	105 1:87)
C. Persons affected by or vaccinated against brucellosis	61	15	17	11
D. Persons suffering from other, mostly infectious diseases	165	9	11	1

Tests with the sera of healthy persons gave invariably a negative result.

the tularemia diagnostica prepared from the American variety of the tularemia bacilli had a higher agglutinability than the usual diagnostica. The diagnosticum made with the virulent American strain was found to be somewhat more sensitive than the attenuated culture of this strain.

2. In agglutination tests with the sera of persons with other diseases the diagnosticum prepared from the American variety gave somewhat more frequently positive results than the usual diagnosticum; in some of these instances the donors might have suffered from tularemia in the past."

568. Kulagin, S. M. and Kudelina, R. I., Experimental study of the causative agent of the Rocky Mountain spotted fever. Zh. mikrobiol. (1963) 10: 92-96.
(From the Gamaleia IEM, AMS, USSR.)

The conclusions to this article, the details of which must be studied in the original or in a translation were:

"Experimental studies of the Bitterroot strain of the causative agent of the Rocky Mountains spotted fever, consisting of cultivation in the yolk-sac of chick embryos, infection of various laboratory animals, a study of its antigenic properties and also of cross immunity tests in guinea-pigs with live and killed cultures (of this and the causative organisms of other rickettsioses) did not reveal significant differences from the causative organism of North-Asiatic rickettsiosis. The strain under test proved to be considerably attenuated and differed from the classical strain by the absence of clearly marked pathogenic features."

569. Shakhovskii, K. P., Changes of the L-form of microorganisms and of their resistance at different temperature conditions. Zh. mikrobiol. (1963) 10:105-109.
(From the 2nd Moscow Pirogov MI.)

This well documented and adequately illustrated article deals with studies on Streptococcus hemolyticus, S. typhosa and Proteus vulgaris.

570. Ananian, S. A., Antibodies to the transmissible viruses of the Casal's group A and B in some groups of the USSR population. Zh. mikrobiol. (1963) 10:125-130.
(From the Institute of Poliomyelitis and Virus Infections, AMS, USSR.)

In the introduction to this article the author stated that

"Up to the present almost all serological investigations made in the foci of tick-borne encephalitis had the aim of detecting antibodies to this group of causative organisms, inasmuch as tick-borne encephalitis is the predominant transmissible virus infection in the Soviet Union. Still, the clinical forms of the disease observed in the foci often did not fit the clinical picture of tick-borne encephalitis. We postulated the possibility of the presence in several of the

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cases of another virus infection, possibly characterized by another clinical picture. On account of this postulation we included in the serological investigations aiming at the detection of anti-hemagglutinins to the causative agents of transmissible virus infections each time tests with the antigens of the virus groups A and B (according to Casal's classification)."

Antigens for the Group A were prepared from the viruses of Eastern and Western encephalomyelitis and the Chikungunia virus, those for Group B from the Sof'in strain of tick-borne encephalitis.

As the author summarized, using these methods of examination he was able to detect

"anti-hemagglutinins to the antigen of the virus of North-American equine encephalomyelitis in 45% and to the viruses of tick-borne encephalitis group in 25% when examining 300 sera collected from inhabitants of Eastern Kazakhstan. An examination of 155 persons in the Usol'skii focus of the Irkutsk Oblast revealed the presence of anti-hemagglutinins to the antigen of Eastern equine encephalomyelitis in 26.4% and to the virus of tick-borne encephalitis in 22.6%. An examination 386 sera from four towns of the USSR (Kemerovo, Kirov, Ussuriisk and Leningorsk) showed the presence of antigens to the A group of transmissible viruses in only 7.5% (but to the Group B viruses in 47.9%)."

571. Pustovalova, L. M., Immunochemical investigation of the antigens in the fluid part of the cholera vaccine.
Zh. mikrobiol. (1963) 10:136-139.
(From the MI in Rostov-on-Don.)

Quoted by title.

572. Lebedinskii, V. A., Problems of the vaccine prophylaxis of tularemia in the publications of American authors. A survey of the literature.
Zh. mikrobiol. (1963) 10:140-142.

This survey, in which one Soviet and 11 Western publications are quoted, is mentioned by title only.

573. Noteworthy articles quoted in a reference list published in the Zh. mikrobiol. (1963) 10:156-158.

- 1) Birkovskii, I. U. E. et al., Theoretical foundations and practical possibilities of the liquidation of infectious diseases in the Ukrainian SSR. Vrachebnoe delo (1960) 8: 82-85.
- 2) Vereninova, N. K. et al., Efficacy of combined vaccination with live vaccines against plague, tularemia, brucellosis and anthrax. Report II. Intensity of the immunity produced by the combined vaccination of guinea-pigs against intratracheal infection. Trudy Inst. "Mikrob," Saratov (1960) 4: 76-81. Report III. Observations on the duration of the immunity after combined vaccination of guinea-pigs. Ibidem, 82-88.
- 3) Vertsner, V. N., Clinical peculiarities of mixed diphtheria and chickenpox infection. Pediatrics (1960) 9: 58-62.
- 4) Zhdanov, V. M., Role of immunization in the fight against infectious diseases. Vest. AMN (1960) 8: 3-10.
- 5) Zil'fian, V. N. and Aleksanian, V. A., Naturally focal infections in Armenia. Trudy Armianskoi protivochumnoi stantsii, Erevan (1960) 1:269-300.
- 6) Karakulov, I. K. et al., Achievements in the fight against infectious diseases. Programma i tezis dokladov nauchnoi konf. Kazakhskogo med. inst., Alma-Ata (1960): 7-9.

574. Shteinberg, G. B. and Stepanishcheva, Z. G., Some problems of the sanitary-hygienic evaluation of the production of antibiotics. Vrachebnoe delo (1963) 10:117-119. (From the Central Institute for ATP and the Central Skin-Venerological Institute.)

The text of this article, in which the author discusses the results of studies of the contamination of the air in factories for the production of antibiotics and of an examination of the oral cavity of the workers in these plants, cannot be briefly reviewed.

575. Sokolov, M. I., The problem of the directed variation of viruses. Vop. virus. 8 (1963) 5:531-541. (From the D. I. Ivanovskii Institute of Virology, AMS, USSR, Moscow.)

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This survey, in the long reference list to which more Western than Soviet publication are quoted, can be mentioned by title only.

576. Peterson, O. P. et al., The initial stage of the interaction between the vaccinia virus and sensitive cells. Vop. virus. 8 (1963) 5:553-556.

The studies recorded in this note, conducted with vaccinia virus labelled with S^{35} methionone, were suggestive of a penetration of the virus protein into the HeLa cells.

577. Desiatskova, R. G. et al., Dynamics of the development of the infectious process following the introduction of the virus of tick-borne encephalitis and its ribonucleic acid. Vop. virus. 8 (1963) 5:590-594..
(From the Moscow SRI of Virus Preparations.)

In this article, the details of which must be studied in the original or in a translation, the authors describe the differences in the manifestations following the infection of white mice and white rats with the tick-borne encephalitis virus or its infectious RNA.

578. Karasev, P. S. and Gavrilov, V. I., A study of the sensitivity of new continuous cell lines to the virus of the tick-borne encephalitis. Vop. virus. 8 (1963) 5: 619-622. (From the Moscow SRI of Virus Preparations and the L. A. Tarasevich Institute for the Control of Medical Preparations.)

The conclusions to this article state that

"1. The virus of tick-borne encephalitis (strain Sof'in) actively multiplies in cultures of the continuous cell lines KEM and PKB and of the kidney epithelium of pig embryos and causes in the course of this process regularly cytopathogenic changes.

2. A cytopathogenic activity of the virus in the KEM cell cultures is manifest only in low dilutions of the virus-containing material (10^{-2} - 10^{-3}); in the cultures of the kidney epithelium of pig embryos such an activity was observed also at higher dilutions of the virus."

579. Iarovoi, L. V. et al., Clinical and epidemiological peculiarities of brucellosis of the sheep-goat type in workers of factories engaged in the primary processing of wool. Sov. med. 27 (1963) 10: 52-58.
(From the Department of Infectious Diseases of the Stavropol MI and the Public Health Department of the Stavropol Krai.)

As stated in this article, in the plants engaged in the primary processing of wool the workers classifying and sorting the uncleaned wool were most exposed to brucellosis infection. Though infection by contact was usual, these groups of workers could contract the infection by the aerial route.

In the opinion of the authors the prophylactic administration of live brucellosis vaccine to the workers of such plants was inadvisable because it was apt to lead to an exacerbation of latent or slowly developing infections and to the appearance of allergic reactions.

580. Ugriumov, B. L., The clinics of infectious diseases of the Czechoslovak Socialist Republic. Sov. med. 27 (1963) 10: 52-58.

This review can be quoted by title only.

581. Kiktenko, V. S. et al., Comparative evaluation of the efficacy of bacterial traps for the determination of the concentrations of bacterial aerosols. Gig. i san. 28 (1963) 10: 45-48.
(From the Medical Faculty of the [Friendship] University "Druzhba narodov.")

The highly technical text of this article does not lend itself to the purposes of a brief survey.

582. Evdokimova, E. V. and Lebedeva, I. V., Hygienic characterization of the method of fighting water-rats from airplanes with arsenical preparations. Gig. i san. 28 (1963) 10: 82-83. (From the Novosibirsk SR Sanitary Institute.)

The authors concluded their article by stating that

"Because of our investigations we are of the opinion that, when using the method of destroying water-rats by the distribution of arsenical preparations (sodium or calcium arsenite) from

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airplanes...in the places of the massive multiplication of the animals(marshes), it is indispensable to enforce a quarantine for 2.5-3 months, prohibiting during this period the use of the territories in question for pasturing, hay harvesting, purposes of water supply, etc....

During this period the economically important waterways near the treated zone must be systematically examined for the presence of arsenic."

583. Osipian, V. T. et al., Comparative efficacy of hexamethylenbenzamide and of acethylhydrochinoline as means for the protection of man against fleas. Med. parazit. 32 (1963) 5:551-553. (From the Order of Lenin S. M. Kirov Academy of Military Medicine.)

Experimenting mainly with Nosopsyllus tesquorum the authors found that both hexamethylenbenzamide (hexamid) and acetylhydrochinoline (RP-99)

"showed a high degree of repellent activity in freshly impregnated garments. After they had been worn for 2 weeks, the repellent properties of the garment treated with RP-99 became somewhat lowered, while the repellent power of the garments treated with hexamid underwent practically no change. At the end of the 3rd week the coefficient of the repellent action of RP-99 became lowered to 50% and after a month the number of fleas collected from the treated and controlled garments showed no significant differences. In the case of hexamid after a 3-week wear of the garments the coefficient of the repellent activity became lowered to 70% and remained on the same level during the following week (end of the observation period)."

The authors found that best results were obtained when the treatment of the garments with the above mentioned repellents was combined with treatment of the body linen with DDT.

The use of repellents with or without DDT exerted no harmful influence.

584. TSirkin, IU. M. et al., An investigation on the use of the hemagglutination inhibition reaction for the diagnosis of tick-borne encephalitis and for the detection of the state of immunity in the population of the pseudofoci. Med. parazit. 32 (1963) 5:567-571.

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Various field mice have been incriminated as the reservoir of the infection but their role as well as that of the commensal rodents has not been clarified.

In 1960 93-95% of the human attacks took place in rural areas at the time of agricultural work and allied activities and the incidence of the disease was highest (62%) in autumn and winter.

Since the general practitioners are little acquainted with the disease, probably its presence is diagnosed in only 50% of the sufferers. Further studies of the affection are urgently called for.

586. Strigin, V. A., Epidemiological data on hemorrhagic fever with a renal syndrome in Bashkiria. Abstract. Med. parazit. 32 (1963) 5: 619.
(From the Ufa I. I. Mechnikov SR Vaccine and Serum Institute.)

During recent years attacks of hemorrhagic fever with a renal syndrome were observed in more than 10 districts of Bashkiria, mostly in persons who had been in contact with mice or allied rodent species or their excreta. A relation seemed to exist between the human attack rate and the population density of the rodents, specially the red European field vole, which was found present in all affected areas. However, no wide-spread epizootics among these rodents have been observed.

The mortality from the disease is low (not above 1.2%). Affected are mostly men (85.9%) of the age groups from 16 to 45.

587. Rybalko, S. I. et al., Hemorrhagic fever in the southern raions of the Kazakhstan. Abstract. Med. parazit. 32 (1963) 5:619-620.
(From the Sanitary-Epidemiological Stations of the Kazakh Republic and of the Southern Kazakhstan Oblast.)

Hemorrhagic fever was first reported in the southern part of the Kazakhstan in 1948 and from then up to 1960 53 cases with 29 deaths have been recorded. Instances of contact infection have been observed. Thus in 1957 in the Sary-Agachskii Raion a three times repeated transition of

(From the Department of Epidemiology of the E. I. Martsinovskii Institute of Medical Parasitology and Tropical Medicine, the Virus Laboratory of the Sanitary-Epidemiological Station of the Krasnoyarsk Krai and the Department of Parasitology of the Krasnoyarsk Municipal Sanitary-Epidemiological Station.)

Large-scale investigations led the authors to the following conclusions:

- (1) The hemagglutination inhibition reaction could be successfully used for the determination of the immunity level in the populations of pseudofoci of tick-borne encephalitis.
- (2) The reaction was equally useful for a confirmation of the clinical diagnosis of the disease in pseudofoci with a low level of humoral immunity of the population.
- (3) The use of the reaction for the confirmation of the clinical diagnosis in the pseudofoci with a high level of herd immunity was difficult on account of the high antibody titers often found in the first serum specimens taken from the patients.
- (4) The rapid increase of the antibody titers in tick-borne encephalitis patients renders it sometimes possible to confirm the diagnosis with the aid of the hemagglutination inhibition reaction during the first week of illness.
- (5) The use of only two serum specimens, collected at the onset and at the end of the attacks for the purpose of confirming the diagnosis leads sometimes to wrong conclusions on account of the marked lability of the antibody titers in the sera of the patients.

585. Vasiuta, I. U. S., Some problems of the epidemiology of hemorrhagic fever with a renal syndrome in the RSFSR. Abstract. Med. parazit. 32 (1963) 5:618-619.
(From the Main Sanitary-Epidemiological Directorate, MH, RSFSR.)

As stated in this note, during the last decade attacks of hemorrhagic fever with a renal syndrome had been recorded in 29 administrative territories of the RSFSR. The disease is regularly met with in the Primorsk and Khabarovsk kraia, in the Udmurt, Bashkir, Mariisk and Tatar autonomous republics and in the Amur, Kalinin, Iaroslav and Tula oblasts.

the infection took place among persons in contact with blood-containing excretions of patients and in spite of the precautions taken two hospital nurses (one of whom died) contracted the disease.

The authors suspect that ticks of the genus *Hyalomma* are the vectors of the infection. They recommend therefore for the prophylaxis of the disease, besides early and strict isolation of the patients, the destruction of these ticks on the cattle and in its stables.

588. Nefedov, D. D., An instance of infectious nephroso-nephritis in the Gor'ki Oblast. Med. parazit. 32 (1963) 5: 620.

This note deals with the clinical history of a patient showing the signs of infectious nephroso-nephritis, due presumably to contact with the excreta of rodents. The patient who fell ill in May 1958, recovered.

589. Miasnikov, IU. A. et al., Peculiarities of the epidemiological manifestations of the natural foci of Tula hemorrhagic fever with a renal syndrome. Abstract. Med. parazit. 32 (1963) 5: 621. (From the Sanitary-Epidemiological Station of the Tula Oblast.)

Natural foci of hemorrhagic fever with a renal syndrome have been observed in 12 forest-steppe raions of the Tula Oblast and in Tula. The reservoir of the infection is evidently the red field vole, since no instances of the infection have been recorded outside the area of distribution of this rodent and an increase of the attack rates in man has been found to coincide with peaks in the incidence of the voles. Thus in 1958-1959 an increase in the number of these animals led to a considerable human outbreak, often among people visiting the forests. However, a familial outbreak was observed, due apparently to a migration of the forest rodents into the affected village.

Apparently the attacks of the disease produced an immunity because, in spite of a continued high frequency of the voles, the incidence of human manifestations was low in 1960.

590. Alifanov, V. I. et al., Materials to the epidemiological prognosis of the Omsk hemorrhagic fever. Abstract. Med. parazit. 32 (1963) 5:621-622. (From the SRI of Diseases with Natural Foci, RSFSR, Omsk.)

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The authors postulate that the drought commencing in the forest-steppe foci of Omsk hemorrhagic fever in 1955-1956 was responsible for a great reduction in the frequency of the ixodes ticks and their small mammalian hosts and hand in hand with this also for a decreased incidence of the disease which during the last years occurred only in sporadic form.

During the summer of 1959 large-scale studies on the frequency of the small mammals and their ectoparasites were made in an old focus of Omsk hemorrhagic fever. These investigations rendered it likely that ticks of the species D. pictus and probably also of the species I. persulcatus were of importance in the perpetuation of the infection. It would be essential, therefore, constantly to watch over the frequency of these ticks and also that of the local voles (? Stenocranius).

591. Bibikova, V. A. et al., Observations on the epizootological role of the large gerbil fleas. Report IV. Xenopsylla skrjabini Ioff 1928. Author's Abstract. Med. parazit. 32 (1963) 5: 622.
(From the Central-Asiatic SR Anti-Plague Institute and the Gur'ev Anti-Plague Station.)

The text of this note reads:

"In the sub-zone of the northern deserts of Central Asia and the Kazakhstan Xenopsylla skrjabini is the predominant flea species of the large gerbils. The fundamental parts of our work were: 1) establishment of the time of appearance of the blockage of the gastrointestinal tract and of the length of life of the blocked fleas of this species in relation to the temperature and 2) investigation of the transmission of P. pestis (strain with a DCL of 10-100 organisms for guinea-pigs) by this flea to big gerbils and small susliks, whose contact with the gerbils in common habitats may be effected through X. skrjabini.

The methods of infecting the fleas on gerbils and susliks and of the transmission of the infection to these animals were analogous to those described by Bibikova et al. in 1958. In almost half of the infected fleas blockage

was higher at 20-24°C than at 14-16°C (55.1% as against 40.5%); the appearance of the blockage at 14-16°C was delayed. At 20-24°C the last blocked flea was observed on the 12th day, though afterwards the fleas lived for a long time. Evidently this was the results of a process of clearance of the fleas, taking place more intensively under these conditions. Fleas with a 'block' lived up to 16-18 days, cases of an erosion of the block were not observed. At 14-16°C the larger part of the blocked fleas was among those feeding frequently; at 20-24°C on the contrary among those feeding rarely. One bite of a blocked flea lasted from 5-10 minutes to 1.5 hours. By far not all the animals bitten in this manner succumbed. Experiments were made with 50 big gerbils and 50 small susliks, on each of which 15 infected fleas were exposed and left until they died or were killed; 27 of the gerbils and 33 of the susliks became plague-infected. A generalized form of plague was noted in 9 of the gerbils and in 28 of the susliks. The infection of the big gerbils occurred more often than that through Xenopsylla gerbilli minax (Bibikova et al. 1958). An infection of the animals could also effected through the exposure of 3-5 fleas.

All in all X. skrjabini can be considered as the most efficient plague vector among all xenopsylla species infesting the gerbils, on account of their high infectibility on their specific hosts, the short time needed for block formation, the high percentage of blockage, the length of survival of the blocked fleas and the high capability of infecting susceptible animals."

592. List of important references quoted in a list embodied in the journal Meditsinskaia parazitologiya, etc. 32 (1963) 5:625-632.

- 1) Kleshchevoi entsetalit v Altaiskom krae (Tick-borne Encephalitis in the Altai Krai). Barnaul (1963) 96 pp.
- 2) Tick-borne encephalitis, leptospiroses, listeriosis, toxoplasmosis. Material. mezhist. n. konf. po diagnostike kleshch. entset., leptospirozov, listerioza i toksoplasmoza Tomsk (1963) 76 pp.

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- 3) L'vov, D. K. et al., Immunological efficacy of re-vaccination with inactivated cultural vaccine against tick-borne encephalitis. In: Kleshchevoi entsefalit i drugie arbovirusnye infektsii. Avtorefaty i kratkie soobshcheniya (Tick-borne Encephalitis and Other Arbovirus Infections. Author's Abstract and Notices). Moscow-Minsk (1962): 213-214.
- 4) Medvedeva, G. I. et al., Comparative evaluation of the different methods for the virological and serological diagnosis of tick-borne encephalitis. Ibidem, 88-90.
- 5) Meshchenko, V. M., Medical-geographical data on the possibility of the existence of tick-borne encephalitis in the Ukrainian SSR. Ibidem, 122-123.
- 6) Mishin, A. V. and Gerasimova, E. N., Natural foci of tick-borne encephalitis and incidence of this disease in the Udmur ASSR. Ibidem, 130-134.
- 7) Mishin, A. V. et al., Repellents as a means of prophylaxis against tick-borne encephalitis. Ibidem, 211-212.
- 8) Morozov, I. V., Preliminary results of experiments to infect some birds with the virus of tick-borne encephalitis. Ibidem, 155-158.
- 9) Moskalets, N. D., Zoological-parasitological characterization of the tick-borne encephalitis focus in the Trans-Carpathian Oblast. Ibidem, 127-129.
- 10) Nesterovskii, N. G., Dependence of the sensitivity of Ixodes persulcatus to DDT and hexachlorane on the intake of blood in the different stages of metamorphosis. Ibidem, 207.
- 11) Nikiforov, L. P. et al., Evaluation of the importance of the mammals in a natural tick-borne encephalitis focus according to the results of the serological examination of the internal organs. Ibidem, 150-151.
- 12) Panov, A. G., Geographical variants of tick-borne encephalitis and their nosological relations. Ibidem, 173-175.
- 13) Petrova, A. S. et al., Some problems of the epidemiology of tick-borne encephalitis in the Chita Oblast. Ibidem, 141-142.
- 14) Pogodina, V. V. et al., Characterization of the strains of the virus of Russian spring-summer encephalitis isolated from healthy human carriers. Ibidem, 30-31.

- 15) Popova, L. B., Contribution to the characterization of a tick-borne encephalitis strain isolated from the tick D. marginatus. Ibidem, 39-40.
- 16) Popov, V. F., A study on the possibility of detecting micro-foci of tick-borne encephalitis through serological examination of the population. Ibidem, 160.
- 17) Idem: Peculiarities of the epidemiology of tick-borne encephalitis in the southern taiga forests of the European plain. Ibidem, 146-148.
- 18) Idem: Serological examination of the population with the aid of hemagglutination inhibition reaction. Ibidem, 99.
- 19) Idem: Forms and intensity of the contact of the population with the tick-borne encephalitis foci. Ibidem, 148-149.
- 20) Prigorodov, V. I. et al., Preliminary results of the study of the efficacy of cultural tick-borne encephalitis vaccine in epidemiological investigations in the Novosibirsk Oblast. Ibidem, 215-216.
- 21) Protas, I. I. and Votnikov, V. I., Character and frequency of the paralytic form of tick-borne encephalitis in Belorussia during the last 10 years. Ibidem, 177-178.
- 22) Pyrikova, A. P., Contribution to the problem of the performance of the hemagglutination inhibition reaction in virus encephalitides. Ibidem, 79.
- 23) Savitskii, B. P., Experience of the quantitative evaluation of the role of the virus species of mice and allied rodent species in the foci of tick-borne encephalitis. Ibidem, 164-166.
- 24) Sarmanova, E. S. et al., Evaluation of the different methods of serological diagnosis of tick-borne encephalitis. Ibidem, 66-67.
- 25) Segal, L. S. and Meshehenko, V. M., Materials to the epidemiology of tick-borne encephalitis in Trans-Carpathia. Ibidem, 126-127.
- 26) Semenov, B. F. and Rejepova, A. E., Some aspects of the use of the hemagglutination inhibition reaction for the detection of antibodies to the tick-borne encephalitis virus in mass serological examinations. Ibidem, 82-84.

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- 27) Sliusarev, F. M., Four years' experience of the clinical study of tick-borne encephalitis in Trans-Carpathia. Ibidem, 186-188.
- 28) Smorodintsev, A. A. et al., Role of the hemagglutination inhibition reaction for the serological survey of new transmissible infections. Ibidem, 72-73.
- 29) Sotnikova, A. N. and Soldatov, G. M., The role of the birds in the tick-borne encephalitis focus of the Primorskii Krai. Ibidem, 151-153.
- 30) Spitsyna, L. N., The comparative frequency of inapparent forms of tick-borne encephalitis. Ibidem, 193-195.
- 31) Tatarinova, L. G., Characterization of the tick-borne encephalitis foci in the Primorskii Krai. Ibidem, 117-119.
- 32) Temirbekov, Zh. T., Investigation of the diffusion of the Kazakh SSR. Ibidem, 85-86.
- 33) Terekhovich, V. F., Some materials to the ecology of the European red vole in the natural foci of tick-borne encephalitis under the conditions of Belorussia. Ibidem, 120-122.
- 34) Umanskii, K. G., Some problems of the diagnosis of the diseases registered as tick-borne encephalitis. Ibidem, 180-182.
- 35) Umanskii, K. G. et al., Is there an erythematous form of tick-borne encephalitis? Ibidem, 182-183.
- 36) Feoktistov, A. Z., Contribution to the problem of the tick-borne encephalitis virus in nature. Ibidem, 167-168.
- 37) Khalanskii, A. S. and Polozhikhina, V. F., The role of the viviparous lizard in the tick-borne encephalitis foci of the Perm Oblast. Ibidem, 137-138.
- 38) Chabovskii, V. I., Regulated pasturing of the cattle as a prophylactic measure in the foci of tick-borne encephalitis transmitted by Ixodes persulcatus. Ibidem, 208-211.
- 39) Idem: Formation of secondary foci of tick-borne encephalitis in localities of forest industry. Ibidem, 108-111.

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- 40) Chumakov, M. P. et al., Isolation in West-Siberia from the tick Ixodes persulcatus and from human sufferers of a virus different from the causative organism of tick-borne encephalitis. Preliminary communication. Ibidem, 5-7.
- 41) Shapoval, A. N., Observations on the clinical diagnosis of tick-borne encephalitis. Ibidem, 178-180.
- 42) Shilova, S. A., Peculiarities of the contact of the population with ticks in the tick-borne encephalitis foci of the Middle Ural. Ibidem, 111-113.
- 43) IAgodinskii, V. N. and Oleinik, I. I., Observations on the epidemiological importance of the hosts of the nymph stage of the vectors of tick-borne encephalitis. Ibidem, 162.
- 44) IAgodinskii, V. N. and Skvortsov, B. I., Contribution to the problem of the epidemiology of tick-borne encephalitis attacks with an unknown route of infection. Ibidem, 169-170.
- 45) IAgodinskii, V. N. et al., Experience of using the precipitation reaction for practical work in a tick-borne encephalitis focus. Ibidem, 90-91.
- 46) Maliushina, E. P. and Loginova, S. A., Ixodes trianguliceps and its hosts in the tick-borne encephalitis focus of the Tiumen Oblast. Materialy itogovoi n. konf. po prirodnoochagovym bolezniyam. Tiumen (1963) 54-55.
- 47) Mal'kov, G. B., Ecological and fauna complexes of the mice and allied rodent species of the forest biotypes in the territory of the natural foci of infection in the Perm Oblast. Ibidem, 62-71.
- 48) Netskii, G. I. et al., Some peculiarities of the ecology of Dermacentor pictus and their relation to changes in the virus carriage by the ticks in the forest-steppe foci of Omsk hemorrhagic fever. Ibidem, 88-92.
- 49) Netskii, G. I. and Shaiman, M. S., Observations on the spread and the relations of the foci of tick-borne encephalitis, North-Asiatic tick-borne typhus and hemorrhagic fever in West-Siberia. Ibidem, 5-10.
- 50) Nikiforov, L. P., Landscape-epizootological raionization and mapping of the tick-borne encephalitis foci in the western part of the Krasnoiarsk Krai. Ibidem, 77-78.
- 51) Prigorodov, V. I. et al., Materials to the study of the reactogenicity and epidemiological efficacy of the cultural vaccine against tick-borne encephalitis. Ibidem, 105-108.

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- 52) Timler, E. A. and Belan, A. A., Distribution of the vectors of tick-borne encephalitis according to the landscape zones of the Tiumen Oblast. Ibidem, 21-22.
- 53) Timler, E. A. and Feneva, N. A., Tick-borne encephalitis in the Tiumen Oblast. Ibidem, 14-15.
- 54) Feneva, N. A. et al., Epidemiological survey of tick-borne encephalitis in the construction zone of the Ivdel'-Ob' Road. Ibidem, 18-21.
- 55) Idem: Epidemiological and clinical characterization of tick-borne encephalitis in the forest-steppe zone of the Tiumen Oblast. Ibidem, 16-17.
- 56) Chudinov, P. I. et al., Materials to the study of the epidemiological and entomological efficacy of anti-tick operations in the natural foci of tick-borne encephalitis in the Toguchinsk Raion of the Novosibirsk Oblast. Ibidem, 94-97.
- 57) Chumakov, M. P. and L'vov, D. K., Scientific-methodological foundations of the practical evaluation of the vaccine against tick-borne encephalitis. Ibidem, 98-100.
- 58) Shaiman, M. S., Study of the state of immunity of the population against rickettsioses in the rural taiga and forest-steppe foci of the Novosibirsk and Omsk oblasts. Ibidem, 137-141.
- 59) Suvorova, L. G. et al., Mapping of the frequency of the immature phases of the taiga ticks in the tick-borne encephalitis focus of the Kirov Oblast. In: Voprosy zoolog. kartografii. Moscow (1963): 100-101.
- 60) Tagil'tsev, A. A. et al., The zoological-parasitological situation in the foci of arbor-virus infections in the north-eastern part of the Bukhtarminsk water-reservoir. Tezisy doklad. 5-oi itogov. n.-prakt. konf. Kazakhsk. inst. epidemiol., mikrobiol. i gigeny. Alma-Ata (1963): 34-36.
- 61) Temirbekov, Zh. T., Use of the hemagglutination inhibition reaction in serological surveys for the detection of foci of vector-borne virus infections. Ibidem, 31.

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- 62) Temirbekov, Zh. T. et al., Serological, virusological and zooparasitological study of wild birds and domestic animals in the south-eastern zone of the Zasan Lake. Ibidem, 32-33.
- 63) TSuker, M. B., Tick-borne encephalitis. In: Infektsionnye zabolevaniia nervnoi sistemy u detei (Infection Diseases of the Nervous System of Children). Moscow (1963), pp. 267-294.
- 64) Shapoval, A. N., Kleshchevoi entsefalit (profilaktika) (Tick-borne encephalitis). Leningrad (1963).
- 65) Baroian, O. V., The problem of the specific prophylaxis of the most important virus diseases. Vest. AMN (1963) 5: 36-45.
- 66) Kir'iakova, A. N., An instance of the devouring of adult fleas by their larvae. Zoolog. zhur. 42 (1963) 6: 950.
- 67) Sviridov, G. G., Use of radio-active isotopes for the study of some problems of the ecology of fleas. Report II. Contact of the animals and intensity of the exchange of parasites in the populations of the big gerbils. Ibidem, 947-949.
593. Rufanov, I. G. et al., Ristomycin - a new antibiotic for intravenous administration. (Study of its clinical and physiological influence on patients with a severe infection.) Antibiotiki 8 (1963) 9:836-839.
(From the Laboratory of Clinical Approbation of New Antibiotics, AMS, USSR.)
- Ristomycin, produced from the cultural fluid of Pro-Actinomyces fructiferi var. ristomycini, was found effective for the treatment of infections caused by gram-positive organisms (staphylococci, streptococci, pneumococci).
594. List of articles appearing in Numbers 9 and 10 of the journal Antibiotiki, Volume 8, 1963 (Quoted by title):
- 1) Sazykin, IU. O. and Chernukh, A. M., Action of antibiotics of the neomycin group on the protein and nucleic acid synthesis in bacteria under aerobic and anaerobic conditions. No. 9: 796-802. (From the Department of Chemotherapy of the Institute of Pharmacology and Chemotherapy, AMS, USSR.)

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- 2) Demikhovskii, E. I. and Davydov, E. A., Contribution to the problem of the increase of the resistance of the staphylococci to antibiotics. No. 9:812-816. (From the Departments of Microbiology and Skin-Venereal Diseases of the Dnepropetrovsk MI.)
 - 3) Kokhanovskaia, T. M. et al., Peculiarities of the distribution of the antibiotics in the organs and tissues of the chick embryos. No. 9:816-821. (From the Department of Microbiology of the Central Institute for ATP.)
 - 4) Spivak, M. IA. et al., Observations on the antimicrobial activity of Phytoncidin, a medicinal preparation from garlic. No. 9:832-833. (From the Department of Hospital Therapy of the Kemerovsk MI, the 3rd Municipal Clinical Hospital and the Anti-Tuberculosis Dispensary of the Kemerovo Oblast.)
 - 5) Soboleva, I. P., The carrier state of pathogenic staphylococci in the hospital personnel. No. 9:843-844. (From the Laboratory of the 6th Municipal Clinical Hospital.)
 - 6) Mamiofe, S. M. et al., Isolation, chemical purification and properties of Florimycin (Viomycin). No. 10:895-900. (From the All-Soviet SRI of Antibiotics.)
 - 7) Kokhanovskaia, T. M. et al., Observations on the dynamics of the concentration of antibiotics in the chick embryo. No. 10:934-939. (From the Department of Microbiology of the Central Institute for ATP.)
 - 8) Gubaidullina, M. Z., Experimental data on the influence of a combination of levomycetin and prednisolone on the course of staphylococcus-proteus wound infections. No. 10:947-949. (From the Department of Microbiology of the Bashkir, MI.)
 - 9) Solov'ev, V. N. and Koniaev, G. A., Changes in the sensitivity of microbial cultures to antibiotics after their short contact with blood serum or inflammatory exudates. No. 10:954-958. (From the Chemotherapeutic Department of the Institute of Pharmacology and Chemotherapy, AMS, USSR.)
595. Kolesov, S. G., The role of vaccine prophylaxis of infectious diseases in various states of the animals body. Veterinariia 40 (1963) 1: 16-20. (From the State Control Institute of Veterinary Preparations.)

This article can be quoted by title only.

596. Voroshilov, K. P., Sanitation of the cattle and rapid liquidation of the brucellosis isolation wards.
Veterinariia 40 (1963) 1: 20-23.
(From the Novosibirsk SR Veterinary Station.)

According to the experiences of the author, formerly brucellosis-affected cattle showing no clinical signs of the disease for not less than a year and giving negative reactions in agglutination and complement fixation tests repeated 3-4 times at intervals of 2-3 months no longer present danger to the healthy herds. Using these criteria the author proposed a scheme for the accelerated dismissal of animals found free from the infection from the isolating wards. Implementing this procedure together with veterinary-sanitary measures it was possible greatly to reduce the number of isolation wards for brucellosis-affected cattle in the Novosibirsk Oblast.

597. Skalinskii, E. I. and Borisovich, Iu. F., Study of an epizootic strain of swinepox. Veterinariia 40 (1963) 1: 27-30. (From the State Scientific Control Institute of Veterinary Preparations.)

The conclusions of the authors were that

- (1) With the aid of electron microscopy of virus-containing materials from the affected parts of the skin of pox-infected piglets (observation of virus particles) one may rapidly establish the diagnosis of swinepox.
- (2) The strain presently isolated from a piglet prove to belong to a species of the swinepox virus, differing from the vaccinia virus by its immunobiological properties.
- (3) In cases of pox outbreaks among pigs and of the absence of an effective action of calfpox vaccine one must assume the presence of another species of the pox virus. It is indispensable under such conditions to immunize the herds with the locally isolated virus.

598. Sudnishnikov, V. A. and Ostashev, S. N., Experiences of producing native biomyxin. Veterinariia 40 (1963) 1: 63-64. (From the Veterinary-Bacteriological Laboratory of the Perm Oblast.)

The technical directions given in this note must be consulted in the original or in a translation.

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599. IAmov, V. Z., Eradication of mice and allied rodent species.
Veterinariia 40 (1963) 1: 78-79.
(From the Uporovo Raion of the Tiumen Oblast.)

As described in this note, satisfactory results in the anti-rodent campaign were obtained with zoocoumarin. Still, the author stressed,

"a complete liquidation of the mice and allied species in the sovkhozes and kolkhozes is possible only through the combined efforts of the veterinary, agronomical and medical services with participation of the people in the work."

600. IArnykh, V. S., An apparatus for the production of aerosols.
Veterinariia 40 (1963) 1: 79-81.
(From the All-Soviet SRI of Veterinary Sanitation.)

For a description of the aerosol apparatus given by the author it is necessary to consult the original or a translation.

601. Selivanov, A. V., Experiences of aerosol immunization of sheep against brucellosis.
Veterinariia 40 (1963) 2: 24-27.
(From the Siberian SR Veterinary Institute.)

The conclusions reached in this article were that

- (1) The aerosol method of immunizing sheep against brucellosis with a vaccine prepared from the strain 19 in doses of 15-30 billion organisms is harmless for the animals.
- (2) Serological reactions appear in them 15-20 days after aerosol immunization.
- (3) The intensity and duration of the immunity produced through group aerosol vaccination and by subcutaneous administration of the vaccine respectively are equal in degree.
- (4) The large-scale use of aerosol immunization of the sheep against brucellosis can be recommended.

602. Cheremisin, G. G., Dogs as the source of the spread of brucellosis among sheep. Veterinariia 40 (1963) 2: 27-28. (From the Checheno-Ingush SR Veterinary Institute.)

Observations on dogs kept together with sheep led the author to the conclusion that

"in brucellosis-affected farms it is indispensable for a detection of the sources of spread of the disease to examine the dogs as well as the sheep for the presence of the infection, since the former animals can be the cause of the appearance and spread of brucellosis among healthy herds."

Examining the dogs for the presence of brucellosis it is essential to resort to agglutination as well as to complement fixation tests.

603. Borisovich, I. U. F., Active immunization of sheep against pox. Veterinariia 40 (1963) 2: 28-30. (From the State Scientific Control Institute of Veterinary Preparations.)

While, as stated in this instructive note, in general, owing to the use of vaccination and other prophylactic measures sheep-pox has almost disappeared from the Soviet Union, it is difficult to guard against re-importation of the infection from adjacent countries into the southern oblasts and republics. Efforts to obtain effective vaccines against this disease are therefore continued. At present ample trials are made with an aluminium hydroxide formol-glycerol tissue vaccine and a dry virus vaccine prepared from chick embryos which, used from 1960 to 1962 on 78,000 sheep in the southern part of Azerbaidzhan, gave good results.

Efforts are also made to obtain combined vaccines against sheep-pox and other infections. A dry combined vaccine has been prepared against anthrax and sheep-pox which gave promising results.

604. Korol, A. G., Importance of mice and allied rodent species in the spread of brucellosis among pigs. Veterinariia 40 (1963) 2: 38-39. (From the Sanitary-Epidemiological Station of the Kherson Oblast.)

In view of the considerable spread of organisms belonging to the brucella group among the small rodents of the

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Kherson Oblast, it is possible that these animals play a role in the appearance of brucellosis in the pigs. However, further studies of this problem are necessary.

605. Boiko, A. A., Improvement of the measures against foot-and-mouth disease. Veterinariia 40 (1963) 3: 5-9.
(From the Directorate of Veterinary Medicine, Ministry of Agricultural, USSR.)
606. Rostovtseva, I. A. and Salazhov, E. L., Importance of the identity of the antigenic properties of the epizootic and vaccinal strains of the foot-and-mouth disease virus for specific prophylaxis. Veterinariia 40 (1963) 3: 17-23.
(From the State Scientific Control Institute of Veterinary Preparations.)
607. Adaikin, P. B., Liquidation of foot-and-mouth disease in the farms of the Ul'ianov Oblast. Veterinariia 40 (1963) 3: 23-25.
(From the Veterinary Department of the Establishment for the Preparation of Agricultural Products of the Ul'ianov Oblast.)
608. Serov, N. V. and Shirokov, A. V., How we prevented the spread of foot-and-mouth disease. Veterinariia 40 (1963) 3: 26.
(From the Veterinary Department of the Establishment for the Preparation of Agricultural Products of the Kostrom Oblast.)
609. Sviridov, A. A., Therapeutic and prophylactic measures in malignant foot-and-mouth disease of cattle. Veterinariia 40 (1963) 3: 27.
(From the Novosibirsk SR Veterinary Station.)
610. Lazarev, N. P., A case of the malignant form of foot-and-mouth disease. Veterinariia 40 (1963) 3: 28.
(From the Orenburg Agricultural Institute.)
611. Likhachev, N. V. et al., Experience of producing a vaccine against foot-and-mouth disease from tissue

culture-grown virus. Veterinariia 40 (1963) 3: 64-65.
(From the State Scientific Control of Veterinary Preparations.)

These papers are quoted by title.

612. Buchnev, K. N. et al., Diagnosis of rabies with the aid of the agar gel precipitation reaction. Veterinariia 40 (1963) 3: 66-70.
(From the Virus Laboratory of the SR Veterinary Institute of the Kazakh Academy of Agricultural Sciences.)

The contents of this illustrated article do not lend themselves to the purposes of a brief review.

613. Shishkov, N., Measures against infectious disease of birds on Bulgaria. Veterinariia 40 (1963) 4: 76-79.

This brief review, which refers inter alia to the occurrence of pasteurellosis, cannot be briefly reviewed.

614. Kulesko, I. I., Aerosol immunization of piglets against (swine) plague. Veterinariia 40 (1963) 5: 30-32.
(From the Ukrainian SR Institute of Experimental Veterinary Science and the All-Soviet SR Institute of Veterinary Sanitation.)

Aerosol immunization of the animals with the aid of the apparatus described by IArnykh (see Abstract No. 599, supra) gave as good results as intramuscular vaccination.

615. Sirota, G. P. and Chistikov, D. D., Pasteurellosis in rooks. Veterinariia 40 (1963) 5: 42.
(From the Laboratory of Veterinary Bacteriology of the Kherson Oblast.)

As described in this brief note, a large-scale epizootic, due to a pasteurella infection, took place among the rooks in a forest of the Kherson Oblast. The organism isolated from the birds was pathogenic for mice, guinea-pigs, rabbits, pigeons and chicken. The author suggests that the presence of the infection in the wild birds is responsible for the frequent appearance of pasteurellosis among the domestic fowl in the oblast.

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616. Mutovin, V. I., The milk lysozymes in the prophylaxis of milk intoxications caused by staphylococci. Veterinariia 40 (1963) 5: 54-57.
(From the All-Soviet SR Institute of Veterinary Sanitation.)

The author found that a high content of lysozyme M in milk did not result in a development of staphylococci nor in an accumulation of enterotoxin.

617. Akulova, M. F., The biological method of anthrax diagnosis. Veterinariia 40 (1963) 5: 58-61.
(From the State SR Anti-Plague Institute, Rostov-on-Don.)

The author found that the diagnosis of anthrax could be accelerated by subjecting the guinea-pigs used for biological tests twice to ether anaesthesia. The work could also be speeded up by using punctates from the site of infection or the regional lymph nodes for examination.

618. Leont'ev, A. I., Methods of demonstrating tularemia bacilli in feeds. Veterinariia 40 (1963) 5: 64-67.

The author found that

"The method of an accelerated demonstration of tularemia bacilli in feeds with the aid of centrifugation or membrane filtration and luminescent microscopy, using fluorescent antibodies, is specific and highly efficacious."

The details of the technique used and of the results obtained must be studied in the original or in a translation of the text.

619. Bakulov, I. A., New data concerning the diagnosis, therapy and prophylaxis of listeriosis. A survey of the literature. Veterinariia 40 (1963) 6: 42-47.
620. Tarlamazian, A. R., Use of ecmonovocillin, bicillin-1 and bicillin-3 in listeriosis of lambs. Veterinariia 40 (1963) 6: 47-48.

621. Poliakov, A. A. and Baranenko, M. A., Veterinary-sanitary measures against listeriosis. Veterinariia 40 (1963) 6: 70-73. (From the All-Soviet SR Institute of Veterinary Sanitation.)

These three papers dealing with listeriosis are quoted by title.

622. Netsetskii, A. M., Acaricidal properties of chlorofos. Veterinariia 40 (1963) 6: 79-80. (From the Uzbek SR Veterinary Institute.)

5-10% chlorofos dust could be used in place of DDT or hexachlorane dust to free cattle from hyalomna ticks.*

623. Petrenko, G. B. et al., A blood-crystal violet vaccine against foot-and-mouth disease. Veterinariia 40 (1963) 7: 9-10. (From the Ukrainian SR Institute of Experimental Veterinary Sciences.)

Subcutaneous administration of this new vaccine to cattle experimentally infected with foot-and-mouth disease gave encouraging results.

624. Viatkin, S. K., Experience of the fight against foot-and-mouth disease. Veterinariia 40 (1963) 7: 10-12. (From the Veterinary Department of the Establishment for the Preparation of Agricultural Products of the North-Kazakhstan Oblast.)

Administration of a vaccine adapted to rabbits reduced the incidence of foot-and-mouth disease which caused great economic damage in the North-Kazakhstan Oblast.

625. Vartanov, A. A., Liquidation of foot-and-mouth disease in a primary focus. Veterinariia 40 (1963) 7: 12. (From the Georgian Zoo-Veterinary Teaching and Research Institute.)

* An article entitled "Characterization of the natural foci of tick-borne encephalitis and Omsk hemorrhagic fever according to the materials of the Novosibirsk and Omsk oblasts" by G. I. Netskii et al., appearing according to a reference list in No. 5, 1963 of the journal Med. parazit., p. 626 in No. 6 1963 of the journal Veterinariia could not be located.

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An outbreak of foot-and-mouth disease on a dairy farm was rapidly suppressed through isolation of the affected animals, daily disinfection of the stables and vaccination.

626. Zaslunov, M. S. and Kantorovich, R. A., Observations on the epizootology of rabies in the forest-steppe zone of the southern Ural. Veterinariia 40 (1963) 7: 13-14. (From the Troitsk Veterinary Laboratory and the Institute of Virology, AMS, USSR.)

The frequency of rabies among the foxes created a serious situation in the southern parts of the Ural and Trans-Ural.

627. Kosilov, I. A., Evaluation of the immunobiological reactions in sheep immunized (against brucellosis) with a vaccine prepared from strain 19. Veterinariia 40 (1963) 7: 32-34. (From the Siberian SR Veterinary Institute.)

The findings recorded in this article must be studied in the original or in a translation of the text.

628. Guliev, M. A., Rabies diagnosis in 1-2 days old rabbits. Veterinariia 40 (1963) 7: 71. (From the Republic Veterinary Laboratory of the Georgian SSR.)

Quoted by title.

629. Skomorokhov, A. L., Eradication of foot-and-mouth disease-- a most important task. Veterinariia 40 (1963) 8: 11-14. (From the Riazan Agricultural Institute.)

630. Amfiteatrov, F. Z. et al., Use of the dry GNKI virus vaccine against foot-and-mouth disease. Veterinariia 40 (1963) 8: 15-16. (From the Veterinary Department of the Ministry of Industry and Preparation of Agricultural Products of the Tatar ASSR.)

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631. Ipatenko, N. G., Experiences of the liquidation of foot-and-mouth disease in the central oblasts.
Veterinariia 40 (1963) 8: 16-17.
(From the Directorate of the Center of the Ministry of Industry and Preparation of Agricultural Products of the RSFSR.)
632. Ezovitev, N. B., Passive immunization lowers the losses caused by foot-and-mouth disease.
Veterinariia 40 (1963) 8: 18-19.
(From the Kuibyshev SR Veterinary Station.)
633. Chanyshiev, Z. G., Propolis for the treatment of foot-and-mouth disease. Veterinariia 40 (1963) 8: 19-20.
(From the Bashkir Scientific and Manufacturing Veterinary Laboratory.)
634. Sergeev, V. A. et al., Changes of the pathogenicity of the foot-and-mouth disease virus during long passage in tissue cultures.
Veterinariia 40 (1963) 8: 71-74.
(From the All-Soviet SR Institute of Veterinary Virology and Microbiology.)

These six articles, dealing with foot-and-mouth disease, are quoted by title.

635. Kapitanaki, M. V. et al., Observations of the diagnosis of anthrax in cattle and sheep.
Veterinariia 40 (1963) 8: 77-78.
(From the Veterinary-Bacteriological Laboratory of the Krasnodar Krai.)

Quoting several examples, the author pointed to occasional difficulties met with in the laboratory diagnosis of anthrax in the case of animals slaughtered under emergency conditions, noting in particular that B. anthracis may be absent from the spleen of the animals while present in the lymph nodes.

636. Pritulin, P. I. and Lipin, V. A., Observations on bacteremia in radiation sickness of sheep.
Veterinariia 40 (1963) 8: 80-83.

Quoted by title.

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637. Orlov, E. S., Brucellosis in agricultural animals. Veterinaria 40 (1963) 9: 10-15.

This review contains summaries of the following articles:

- 1) Butrin, N. A. (Novosibirsk Veterinary-Bacteriological Laboratory), Experiences of sanitating farms with brucellosis-affected cattle with the aid of vaccines made from (brucella) strain 19.

The conclusion of the author was that anti-brucellosis vaccination of the cattle, practiced hand in hand with sanitary measures, is an effective means gradually to eradicate the infection.

- 2) Ugriumov, G. A. (Buriat ASSR), Sanitation of a cattle herd with the aid of vaccination.

Large-scale vaccination of the cattle in farms which had been affected by brucellosis for many years, led to a disappearance of the infection.

- 3) Altukhov, V. N. (Izhevskii Raion of the Riazan Oblast), Experience of the liquidation of brucellosis in the Izhevskii Raion.

In this article a brief description is given of the complex measures which led to the disappearance of brucellosis from 7 communal farms and 32 privately owned cattle herds.

- 4) Akchurin, B. S. and Nasyrov, I. S. (Bashkir ASSR), Preliminary results of the fight against cattle brucellosis with the aid of vaccination in the Bashkir ASSR.

Anti-brucellosis vaccination of the cattle was started in the Bashkir ASSR in 1953 and up to 1961, 282,556 heads had been immunized. The implementation of this method led to a disappearance of brucellosis in 135 hitherto affected localities of the republic.

- 5) Pinigin, A. N. and Tuchin, A. F., Results of specific anti-brucellosis prophylaxis in the Kazakh SSR.

Anti-brucellosis vaccination of the cattle and sheep, commenced in the Bashkir ASSR in 1955 and implemented together with other prophylactic measures led to a marked decrease of the infection.

The reviewer (Orlov) objected to the proposal of the two authors to administer wholesale vaccination during each of three successive years because the immunity produced by a single anti-brucellosis immunization lasted for 2-3 years and its intensity was not increased through re-vaccination.

- 6) Roman'ko, G. K. (Altai Krai), Experience of freeing a sheep farm from brucellosis.

The author obtained success in freeing a communal sheep farm from brucellosis through large-scale laboratory examinations and the rigid implementation of sanitary measures including the slaughter of the affected animals.

- 7) Sorokin, V. I. (Bashkir ASSR), Contribution to the problem of the persistence of serological reactions in cows vaccinated against brucellosis.

Reporting on a total of 2,412 anti-brucellosis vaccinations in cattle herds the author stated that 1.5 years after the immunization a considerable part of the vaccinated animals reacted positively in agglutination and complement fixation tests. Though the positive reactors were not separated from the herds, their numbers gradually decreased and all 23 farms concerned became free from the infection within 3-5 years.

The author was not in agreement with the recommendation of Ivanov and his associates (Veterinariia 1961, No. 7) that all animals showing positive agglutination reactions with titers of 1:200 or more or such with a positive complement fixation reaction 2.5 years after immunization ought to be considered as brucellosis-affected and ought to be removed from the herds. In the opinion of Sorokin special attention had to be paid to the spread of the infection through aborting animals.

- 8) Rassomakhin, P. D. and Gracheva, M. I. (Krasnodar), Observations on the improvement of the serological diagnosis of brucellosis in cattle.

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The authors concluded from ample observations that agglutination tests made with 12% sodium chloride solutions gave more reliable results than those in which normal saline was used as diluent or than complement fixation tests.

- 9) Khasanov, N. Kh., Observations on the transition of Brucella melitensis from sheep to the cattle under the conditions of Tadzhikistan.

Large-scale observations led the author to the conclusion that

"in Tadzhikistan transition of Br. melitensis from sheep to the cattle takes place, but that this occurs comparatively rarely, notwithstanding favorable conditions. The Br. melitensis organisms infecting the cattle do not spread in the herds."

- 10) Popkov, M. F. and Pogorel'skaia, K. P. (Senno, Vitebsk Oblast), Observations on the improvement of the serological diagnosis of brucellosis in cattle.

Examinations of a total of 1,566 sera of cattle from either brucellosis-free or affected farms led the authors to the conclusion that it was sufficient to make agglutination tests with 12% saline solutions instead of such performed in the usual manner and complement fixation tests.

The reviewer (Orlov) considered this recommendation as premature.

- 11) Akaev, R. O. and Sul'tanova, R. G. (Dagestan ASSR), Improvement of the method of complement titration in the hemolytic system.

In the text of this note it is stated that

"In 1962 the authors made complement fixation tests for brucellosis in more than 60,000 sheep. To gain time, they titrated the complement only in the hemolytic system with addition of 0.5 ml of an 1:5 dilution of blood serum taken from the group of cattle under examination. The serum for complement titration was inactivated together with the sera for the main test.

The authors made more than 30 parallel complement titrations in the hemolytic system with the sera of the main test. The titer in both systems coincided almost invariably. If the dose of the complement was chosen according to the titration of the latter in the hemolytic system, the main test ran normally."

Because of these findings the authors recommended their method of complement titration.

- 12) Bochorishvili, G. (Tbilisi Republic Veterinary-Bacteriological Laboratory), Simplification of the method of performing complement fixation tests in various diseases.

Making altogether 12,316 tests, the author examined the sera of various animal species for brucellosis and those of horses for glanders and trypanosomiasis (do-urine). The complement was titrated with normal serum only in the presence of antigen. All components were poured together simultaneously in the usual doses and the tubes were then kept in the water bath for 10 minutes. The complement dose which produced complete hemolysis was considered as the titer. The main test was performed in the usual manner.

- 13) Kurakina, T. A. (Veterinary-Bacteriological Laboratory of the L'vov Oblast), Observations on the value of color reactions with blood serum and milk for the diagnosis of brucellosis in cattle and swine.

In order to perform the color reaction the author added to 0.1 ml of the serum under test 1 ml milk of a healthy cow and then one drop of colored antigen to obtain a ring reaction. Results were read after the tubes had been kept in the water bath for 45 minutes. The author found this reaction specific and as sensitive as the agglutination and complement fixation tests.

- 14) Kolomakin, G. A. et al. (Veterinary-Bacteriological Laboratory of the Alma-Ata Oblast), Observations on the diagnosis of brucellosis in pigs.

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The authors recommended the simultaneous use of agglutination and complement fixation tests for the examination of brucellosis-suspect pigs because the results of these reactions supplemented each other.

- 15) Kovalev, L. V. (All-Soviet Institute of Experimental Veterinary Medicine-VIEV), Differentiation of brucellosis strains according to their tinctorial properties.

The author of this note, the text of which does not lend itself to the purposes of condensation, recommended the method of differential staining describing by L. I. Datsevich (Veterinariia 39, 1962, 1: 79-80) for the identification of the brucella types.

- 16) Klochkov, A. A. (VIEV), Study of the cultural and biological properties of weakly agglutinating brucella strains.

The author furnished a concise description of the properties of five brucellosis strains which produced antibodies for a short period of time only if repeatedly administered to guinea-pigs or rabbits in unusually large doses. Four of the strains appeared to be of potential value for the production of vaccines.

638. Chubov, P. P. and Denisov, A. I. (Starominsk Raion of the Krasnodar Oblast), Use of the method of provocation during the sanitation of brucella-affected farms. Veterinariia 40 (1963) 9: 15-17.

The methods used by the author of this note and the results obtained must be studied in the original or in a translation of the text.

639. Ezhov, V. I., Comparative efficacy of antibiotics in pasteurellosis of ducks. Veterinariia 40 (1963) 9: 37-40. (From the All-Soviet Institute of Experimental Veterinary Medicine.)

The author found that monomycin, polymyxin-M, terramycin, bicillin-3, dibiomycin, bimycin, biovetin and biovit-40 were effective for the treatment and prophylaxis of pasteurellosis in ducks.

640. Masiukov, A. V., The contra-indications against the use of the avian pasteurellosis vaccine of the Krasnodar SR Veterinary Institute. Veterinariia 40 (1963) 10: 36. (From the Krasnodar NIVS.)

Quoted by title

641. Shaburov, M. S., Study of the Abyssinian vaccinal strains of African horse plague. Veterinariia 40 (1963) 10: 68-69. (From the All-Soviet Institute of Experimental Veterinary Medicine.)

642. Ivanovskii, E. V. and Nazarov, V. P., Virus-vaccine against African horse plague. Veterinariia 40 (1963) 10: 70-72. (From the State Scientific Control Institute of Veterinary Preparations.)

These two articles are quoted by title.

643. Zav'ialov, N. D., Eradication of brucellosis on farms. Veterinariia 40 (1963) 11: 31-33. (From the Veterinary Laboratory of the Vladimir Oblast.)

In the concluding sentences of this article it is stated that

"the administration of vaccines prepared from the brucella strain 19 and the simultaneous implementation of measures of veterinary sanitation permitted to achieve the disappearance of brucellosis from the farms under treatment. If after the vaccinations brucellosis-caused abortions are observed, it is necessary to resort to re-vaccinations."

644. Artemov, B. T., The importance of low agglutination titers in the diagnosis of cattle brucellosis. Veterinariia 40 (1963) 11: 33-34. (From the Voronezh SR Veterinary Station.)

The author concluded his article by stating that

"In brucellosis-affected farms positive agglutination reactions at a titer of 1:20

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were observed 6 times more often than in the sera of healthy animals and reactions at a titer of 1:40 fifty times more often. If brucellosis is present in the affected herds, the animals reacting at these titers must be isolated and again tested after 15-30 days."

645. IUsupov, O. IU., Influence of vaccines against anthrax, foot-and-mouth disease and emphysematous carbuncle on the immunological reactions of cattle and sheep to vaccination against brucellosis.
Veterinariia 40 (1963) 11: 34-36.
(From the All-Soviet Institute of Experimental Veterinary Medicine.)

The conclusions reached by the author were that

- (1) Single administrations of vaccines against anthrax, foot-and-mouth disease and emphysematous carbuncle to cattle and sheep at a considerable time after immunization with the brucella strain 19 and also 10 days before the administration of the latter vaccine do not exert a substantial influence on the serological (agglutination and complement fixation) reactions of the animals.
- (2) Immunization with the STI vaccine, the formol-vaccine against emphysematous carbuncle and the vaccine against foot-and-mouth disease at different times after immunization of the animals with the anti-brucellosis vaccine prepared from the strain 19 did not interfere with the performance of diagnostic tests for brucellosis in the cattle and sheep herds.

646. List of articles on foot-and-mouth disease published in Veterinariia 40 (1963) No. 11.

- 1) Kozlovskii, G. A., Experiences in the eradication of foot-and-mouth disease. A Review. Pp. 19-27.
- 2) Lukin, A. M., Role of the ixodes ticks in the epizootology of foot-and-mouth disease. Pp. 28-30.
(From the Novosibirsk SR Veterinary Station.)
- 3) Glushko, B. A., Post-vaccinal immunity against foot-and-mouth disease in young cattle. Pp. 30-31.
(From the Tadzhinsk SR Veterinary Institute.)

- 4) Bocharov, D. A., In a focus of foot-and-mouth disease. (Complex of veterinary-sanitary measures.) Pp. 63-65. (From the Moscow Technological Institute of the Meat and Milk Industry.)
 - 5) Voinov, S. I. et al., Results of two years' production of lapinised foot-and-mouth disease antigens of the types O, A and S. Pp. 69-70. (From the State Scientific Control Institute of Veterinary Preparations and the Kursk Biofabrika.)
 - 6) Bulos Abdel' Malek Butros, Adaptation of the foot-and-mouth disease virus of Type O to adult white rats. Pp. 71-72. (Report on work performed under the direction of L. S. Ratner, Foot-and-mouth Disease Laboratory of the All-Soviet Institute of Experimental Veterinary Medicine.)
647. Domaradskii, I. V. and Krupenina, V. I., Influence of the toxin of P. pestis on the histaminopexic effect of the blood of white rats and guinea-pigs. Biul. eksp. biol. 55 (1963) 5: 48-51. (From the Biochemical Laboratory of the Irkutsk SR Anti-Plague Institute of Siberia and the Far East.)

Previous investigations by Domaradskii and Klimova (Biul. eksp. biol. [1962] 5: 69) had shown that the sensitization of animals to histamine caused by P. pestis and its toxin cannot be explained by a suppression of the activity of diaminoxidase and that the phenomenon was not related to an influence of the toxin on the process of histamine formation. This, therefore, indicated a need to study the influence of the plague toxin on the so-called histaminopexic affect, i. e. the binding of exogeneous histamine to the blood serum.

For their work in this respect the authors used whole citrated blood instead of 5% serum. For in vivo tests one group of white rats was given intraperitoneally 3 LD₅₀ doses of plague toxin (Fraction II of the EV strain) and the animals were decapitated 4 hours later. A second group of white rats, which had received by the same route one LD₅₀ of the toxin, was sacrificed after 18 hours. Guinea-pigs were given toxin doses corresponding to their greater body weight (300-350 g as against 160-180 g) and sacrificed after the same intervals of time. The blood of the sacrificed animals was collected and citrated at the ratio of 1 mg per ml of blood. Identical samples were also obtained from

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normal (control) animals. 10 mkg histamine dichloride were added to each 1 ml sample of citrated blood and after mixture of their contents the tubes were put on ice for 15 minutes. Then the amounts of histamine present were determined.

For in vitro tests the authors added to blood samples of healthy animals either only histamine or both histamine and plague toxin. As the author added to this description of their technique, they

"determined the amounts of histamine with the aid of a biological method at 38°C in an atropinised segment of guinea-pig ileum suspended in Ringer-Locke solution, through which oxygen was led.... The binding of histamine was determined according to its decrease in the samples of citrated blood and expressed in percents in respect to the standard dose of histamine equal to 1 mkg. All results were statistically evaluated...."

As shown in a table, the whole citrated blood of the test animals showed a histamine-binding effect, no material differences existing in this respect between the white rats and the guinea-pigs. After administration of plague toxin the histamine-binding effect became markedly decreased, more so 4 hours after the injection of 3 LD₅₀ doses, but also 18 hours after the administration of 1 LD₅₀ of the toxin.

Different findings were made in the vitro tests: the addition of small toxin doses (90 mkg or 3 LD₅₀ in the case of the rats and 200 mkg or LD₅₀ in that of the guinea-pigs) did not suppress the histamine-binding effect. If large toxin doses (1 mg) were used, one could even note an increased binding of the histamine by the blood.

Commenting upon these findings, the authors stated that

"One of the manifestations of the action of the plague toxin on the animal body is the suppression of the histamine-binding effect of the blood. This is observed not only in the case of white rats, sensitive to the toxin in question, but also in that of the guinea-pigs, which are comparatively resistant to the plague toxin. As far as we know, this is a rare case, in which the plague toxin shows an action of similar intensity on animals with a different sensitivity to the toxin."

"The absence of an influence of the toxin on the histamine-binding effect of the blood in the vitro tests," the authors continued, "leads to the thought that the suppression of this effect in plague intoxication, i. e. in the in vivo tests, is not the result of a direct action of the toxin on the mechanism of histamine-binding, but is due to some other causes. Apparently one of these might be an affection of the suprarenals which according to the opinion of V. V. Donskov (Med. biul., Irkutsk [1939]: 23) is an important factor, causing death in the plague infection. As has been mentioned already, according to several authors the histamine-binding effect is absent in rats which have been deprived of their suprarenals."

A second factor possibly responsible for the suppression of the histamine-binding effect, an allergization of the body, does not play an important role in plague intoxication.

648. Levi, M. I. and Suchkov, Yu. G., Transplacental (passive) transmission of plague antibodies to the offspring of large gerbils. Serological investigations in plague. Biul. eksp. biol. 55 (1963) 6: 88-91.
(From SR Anti-Plague Institute, Rostov-on-Don.)

This article reports on the results of observations on 31 pregnant specimens of big gerbils (Rhombomys opimus), caught in May 1962 in an area where plague epizootics were present. From 17 of these animals, the sera of which gave positive results for plague in hemagglutination inhibition tests, were obtained 104 embryos, 44 placentae and 42 specimens of amniotic fluid, all of which also contained antibodies to P. pestis. The authors stated in this connection that

"In the majority of cases one observed a definite relation between the antibody levels of the mother animals, the embryos, placentae and amniotic fluid. In contrast to the serum dilutions of the mother animals, the dilutions of the embryo suspensions and of the placentae reflect but approximately the antibody levels in the blood serum of the embryos, which is explained by the peculiarities of the preparation of the suspensions. It must be noted that the

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antibody titers of the embryos, placentae and amniotic fluid obtained from one and the same female differed only within inconsiderable limits."

Hemagglutination inhibition tests made with 60 embryos, 27 placentae and 23 specimens of amniotic fluid from females without antibodies in their sera gave invariably a negative result.

Since big gerbils giving birth in captivity are prone to devour their young, it was only possible to examine 42 specimens of the latter. Tests made at various intervals within an observation period of 20 days invariably showed the persistence of high antigen levels in the sera of the young. There existed a correlation of the antigen levels in the sera of the mothers and of their offspring.

Commenting upon their findings, the authors found no reason to doubt

"that under natural conditions antibodies are transmitted from the big gerbils to their offspring. It is not yet clear for how long the passively transmitted antibodies persist in the latter and whether the antibodies play a protective role. According to statements in the literature in the case of many infections the length of time for which antibodies can be observed in the offspring equals at an average 2-4 weeks.... In our limited material it was impossible to solve the problem of the dynamics of destruction of the passively transmitted antibodies, but one got the impression that at the 20th day the antigen titer had become somewhat lowered."

Discussing the possible role of the passively transmitted antibodies the authors postulated that the adult gerbils, functioning as the fundamental reservoir of P. pestis in the foci of the Central-Asiatic deserts, must be endowed with a comparatively high resistance to plague. Most probably, as has been shown in the case of Meriones meridianus on the left Volga shore, the resistance to plague is passed on from generation to generation of the gerbils. However, the authors maintained, the gerbils are not born resistant to plague, but acquire this property at the moment when they are weaned or even only when they become sexually mature. Up to the time of the formation of this

hereditary resistance the antibodies passed on from their mothers to protect the young gerbils against the infection with P. pestis apt to result from flea-bites in the regions with widespread epizootics.

649. Levi, M. I. et al., Hereditary transmission of plague resistance in midday gerbils.
Biul. eksp. biol. 56 (1963) 7: 75-79.
(From the SR Anti-Plague Institute, Rostov-on-Don and the Astrakhan Anti-Plague Station.)

In the introduction to this article the authors drew attention to the most marked differences in the resistance to experimental plague infection existing between the population groups of Meriones meridianus on the right and left shores of Volga river. Comparative tests showed that the LD₅₀ in subcutaneous infection of the left-shore gerbils exceeded the corresponding dose for the gerbil population on the right shore "some ten or hundred thousand times."

In view of these observations the authors studied the possible influence of genetic factors on the formation of the plague resistance in the gerbils. For this purpose they resorted to cross-breeding of (a) females from the left shore with males from the right shore (Line 1) and (b) male animals from the latter region with females from the other side of the river (Line 2). Both lines thus established were then inbred.

Results obtained with subcutaneous infection of groups of 8 animals each of the gerbils used for crossing and their offspring as well as of control animals with doses of a virulent plague strain ranging from 0.1 to 100 million organisms were shown by the authors in the form of the following table, the figures of which indicate the numbers of P. pestis forming the various LD₅₀ doses:

(Table on the next page)

Commenting upon these figures, the authors stated that

"If the dose causing the deaths of 50 animals for white mice amounted to tens or hundreds of organisms, for midday gerbils from the right shore to single units, tens or hundreds of organisms, for the left-shore gerbils (for

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<u>Category of Animals</u>	<u>T e s t</u>			<u>S e r i e s</u>		
	<u>1</u>			<u>2</u>		<u>3</u>
White mice (controls)	316			558		48
Right-shore gerbils (controls)	4			216		2
Left-shore gerbils (controls)	3,937,000	10,000,000		39,400,000		
First generation of Line 1				1,000		14,920
Second generation of Line 1						170,000
First generation of Line 2				131,000		
Second generation of Line 2						56,200

animals caught in the steppe as well as for those bred in captivity) to millions or tens of millions, so for the offspring of both lines in two generations it varied from single units to ten and hundred thousands of organisms. Thus the LD₅₀ of the offspring stood approximately between that for animals obtained respectively from the right and left shores of the river."

Results of further investigations of the authors, made in the various groups of animals in regard to bacteremia, antibody contents in the sera of surviving animals and the biometric measurements of the uncrossed and crossed animals, must be studied in the original or in a translation of the text.

650. Domaradskii, I. V. et al., Observations on the coagulation of blood plasma by plague and pseudotuberculosis bacilli. Biul. eksp. biol. 56 (1963) 7: 79-82.
(From the Irkutsk State SR Anti-Plague Institute of Siberia and the Far East.)

Observations of several workers have shown that P. pestis is capable of lysing the fibrin of human and animal blood. It has been likewise recorded that this organism coagulates the plasma of rabbits (Jawetz and Meyer, J. Immunol. 49 [1944]: 15) and of man (Fisler, J. Bact. 81 [1961]: 241). It seemed of interest to the present authors to study the relationship of these

two properties of the plague bacillus and also to find out whether the pseudotuberculosis bacillus, which shows no fibrinolytic activity, is able to coagulate plasma.

This study, for the detailed results of which the original or a translation of the text must be consulted, showed that

- (1) The property of P. pestis to coagulate rabbit plasma is correlated with its fibrinolytic activity - all 116 strains showing the latter activity also coagulated rabbit plasma, whereas all 57 not fibrinolytic strains also reacted negatively in the plasma coagulation tests.
- (2) Of the 116 strains which coagulated rabbit plasma only 25 gave a corresponding reaction with human plasma.
- (3) All 68 pseudotuberculosis strains examined were found incapable of coagulating rabbit plasma.

Commenting upon the last mentioned observation, the authors stated that

"The constant absence of plasma coagulation and fibrinolytic activity shown by the pseudotuberculosis bacillus permits the postulate that this represents a qualitative difference between P. pestis and P. pseudotuberculosis. In view of this the plasma coagulation test is of considerable interest for the differential diagnosis of the two organisms."

651. Volosivets, A. I., Study of plague and of bacterial mutants resistant to them. Report I. Biological properties of the plague phages.
Biul. eksp. biol. 56 (1963) 9: 81-84.
(From the All-Soviet SR Institute "Mikrob," Saratov.)

Summarizing the results obtained in the concluding sentence of this study, the text of which does not lend itself to detailed review, the author stated that

"the bacteriophages investigated (EV, 1-17 and d'Herelle's) showed a wide range of action in regard to plague bacilli of

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various origin, but also lyse pseudotuberculosis bacilli (10-12%). The adsorption of the plague phages takes place in the course of 5-8 minutes (EV and 1-17) and 8-10 minutes (d'Herelle's phage). The latent period of the development of the EV and 1-17 phages is equal to 23 minutes, that of d'Herelle's phage to 25 minutes. The last mentioned two signs are related to the lytic activity of the phages. These phages form one serological group."

652. Volosivets, A. I., Phage-resistant mutants of the plague bacilli and their properties.
Biul. eksp. biol. 56 (1963) 11:107-111.
(From the All-Soviet SR Institute "Mikrob," Saratov.)

A particularly noteworthy observation recorded in this paper, the text of which does not lend itself to a condensation, was that some of the mutants obtained under the action of the bacteriophages enumerated in the preceding abstract exhibited features characteristic of pseudotuberculosis bacilli.

653. Domaradskii, I. V. and Klimova, I. M., Observations on the influence of plague toxin on diaminoxidase.
Biul. eksp. biol. 53 (1962) 5: 69-72.

The authors of this study, which cannot be reviewed in detail, found that large doses of plague toxin obtained from the vaccinal strain 1 according to the method of Baker et al. (J. Immunol. 68 [1952]: 131) exerted a depressing action on diaminoxidase obtained with the aid of dialysis from the lungs of white rats. As shown by analogous tests with the toxin-lipopolysaccharide of a pseudotuberculosis strain and with cholera and Br. melitensis toxins, the action exerted in this respect by the plague was comparatively specific.

654. Zasukhina, G. D., Mutation of the virus of Western equine encephalitis induced by formol.
Biul. eksp. biol. 56 (1963) 9: 73-76.
(From the Encephalitis Department of the Institute of Poliomyelitis and Virus Encephalitides, AMS, USSR, Moscow.)

655. Strelets, V. A. and Rutsko, L. A., An apparatus and method for the quantitative assessment of the lung ventilation in small animals.
Biul. eksp. biol. 56 (1963) 10:123-125.
(From the Laboratory of Experimental Pathology and Therapy of the Leningrad SR Tuberculosis Institute.)

These two articles can be quoted by title only.

656. Mokhin, K. M., The blood circulation rate in experimental plague. Biul. eksp. biol. 53 (1962) 2: 47-52.
(From the Pathophysiological Laboratory of the SR Anti-Plague Institute, MH, USSR, Rostov-on-Don.)

As summarized by the author, studies on 34 guinea-pigs and 18 rabbits intravenously injected with radio-active indicators showed that

"in plague-infected guinea-pigs with characteristic morbid changes and the presence of P. pestis in the organs the blood circulation rate becomes retarded almost two times in comparison with the initial rate. In the case of a rapidly evolving plague process one observes already during the first day after infection a decrease of the blood circulation rate, which progresses hand in hand with the development of the process.

In the case of more slowly developing plague infections there exists during the first period some acceleration of the blood circulation, followed by a retardation. If the infection is not fatal, hand in hand with the improvement of the state of the animals the circulation rate returns to normal."

657. Poliakov, I. I., Electro-physiological investigations of the state of the central nervous system in experimental brucellosis.
Biul. eksp. biol. 53 (1962) 2: 52-57.
(From the Pathophysiological Laboratory of the SR Anti-Plague Institute, MH, USSR, Rostov-on-Don.)

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The concluding statement of this article is that

"comparative investigations of the functional state of the central nervous system, the immunobiological reactivity, the bacteriology of the infectious process and the body temperature in brucellosis-infected guinea-pigs showed that the invasion of the body by the brucellae leads first to changes in the central nervous system, followed by corresponding shifts of the immunobiological reactivity and temperature regulation. The most marked changes in the activity of the cervical cortex in brucellosis-infected guinea-pigs are present in the chronic stage of the disease."

658. Khundanov, L. E. and Shkurko, E. D., Comparative study of the gamma-globulin obtained through immunization of horses with virulent or avirulent plague cultures. Biul. eksp. biol. 53 (1962) 3: 67-70.
(From the Irkutsk SR Anti-Plague Institute of Siberia and the Far East.)

The main conclusion reached by the authors of this study was that

"the efficacy of anti-plague sera and their gamma-globulins depends upon the quality of the antigen with which the producers are immunized. Immunization of the animals with killed virulent cultures ensures the production of a more effective gamma-globulin, capable of preserving the life of 90-100% of animals infected with 25 DCL."

659. IArumiuk, G. A. and Domaradskii, I. V., Contribution to the problem of the nature of the fibrinolytic substance of P. pestis. Biul. eksp. biol. 53 (1962) 4: 87-91.
(From the Irkutsk SR Anti-Plague Institute of Siberia and the Far East.)

Though many observer, related the fibrinolytic properties of P. pestis to the presence of fibrinolysins in the filtrates of broth cultures, it was claimed by Astrup and Permin

(Nature 159 [1947]: 681) that fibrinolytic activity is a property of the organism itself. The investigations recorded in the paper presently under review, which cannot be briefly dealt with, confirmed this postulation.

The value of this article is enhanced by an adequate reference list.

660. Adamov, A. A. et al., Method of identifying P. pestis with the aid of alizarin suspensions of anti-plague agglutinins.
Biul. eksp. biol. 53 (1962) 5:103-107.
(From the All-Soviet SR Institute "Mikrob," Saratov.)

The authors of this paper, which cannot be briefly reviewed, claimed that their method of using alizarin suspensions of anti-plague agglutinins for diagnostic tests was suitable for a differentiation of P. pestis from other microorganisms including the pseudotuberculosis bacillus.

661. Domaradskii, I. V. et al., Study of the properties of sera obtained through immunization of rabbits with fractions of P. pestis.
Biul. eksp. biol. 54 (1962) 12: 75-78.
(From the Irkutsk SR Anti-Plague Institute of Siberia and the Far East.)

Experimenting on white mice with sera raised in rabbits with the fractions IB and II and with the water-insoluble residue of the EV strain the authors found that only

"the serum of rabbits immunized with the water-insoluble fraction of the EV strain was endowed with therapeutic and prophylactic properties; it was not possible to establish in this respect a difference between normal serum and the sera of rabbits immunized with the fractions IB and II of the plague bacillus.

The toxin-neutralizing properties of the sera of rabbits immunized with the fractions IB and II did not materially differ from those of the sera raised with the EV strain."

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662. Kratinov, A. G. and Khar'kova, N. M., Observations on the species-conditioned differences of the disturbances of the metabolism of carbohydrates and of ascorbic acid in rodents under the influence of plague intoxication. Biul. eksp. biol. 51 (1961) 5: 63-67.
(From the Pathophysiological Laboratory of the SR Anti-Plague Institute of the Caucasus and Transcaucasus, Stavropol.)

This paper, in which the results of observations on Meriones meridianus, Citellus pygmaeus, Sciurtopoda telum, white mice and guinea-pigs, species differing in their sensitivity to the plague toxin, were recorded, can be quoted by title only.

663. Domaradskii, I. V. and IArumiuk, G. A., Lysis of the blood fibrin of man and animals by P. pestis. Biul. eksp. biol. 50 (1960) 7: 51-54.
(From the Irkutsk SR Anti-Plague Institute of Siberia and the Far East.)

The main results of this study, for the detailed findings of which the original or a translation of the text must be consulted, were that (a) P. pestis is capable of lysing the fibrin not only of human blood but also of the blood of all animal species tested; (b) the fibrinolytic factor is inherent in the microbial cells and does not pass into the ambient medium; and (c) there exists no relation between the plague susceptibility of a given strain and the lytic action of P. pestis on the blood fibrin of the animals in question.

664. Kovtunovich, L. G. and Shablovskaja, E. A., Method of obtaining blood from white mice. Biul. eksp. biol. 50 (1960) 7:117-120.
(From the L'vov Institute of Epidemiology, Microbiology and Hygiene.)

This illustrated article can be quoted by title only.

665. Igonin, A. M., Morphological changes in the lymph nodes and spleen of guinea-pigs repeatedly infected with Rickettsia burneti. A contribution to the morphology of immunity. Biul. eksp. biol. 50 (1960) 12: 65-68.

666. Ispolatovskaia, M. V. et al., Electrophoretic and immunochemical study of the protein components of the serum of

guinea-pigs during the development of brucellosis infection. Biul. eksp. biol. 49 (1960) 3: 46-50. (From the Department of Biochemistry and the Brucellosis Laboratory of the Gamaleia IEM, Moscow.)

These two articles do not lend themselves to the purposes of brief reviews.

667. Airapet'ian, G. P., Contribution to the problem of reactivity of rabbits with a grafted Brown-Pearce tumor to immunization with live tularemia vaccine. Biul. eksp. biol. 50 (1960) 12: 69-72. (From the Laboratory of Non-Infectious Immunology of the Institute of Experimental Biology, AMS, USSR, Moscow.)

The experimental animals showed during the first state of tumor development an increased reactivity to tularemia vaccination. Later on they became incapable of responding to the immunization.

668. Zarudin, V. V. and Shevelev, A. S., Contribution to the problem of the peculiarities of the morphology of vaccinal tularemia infection in acute radiation sickness. Biul. eksp. biol. 49 (1960) 3:113-117. (From the Department of Morbid Anatomy and the Department of Microbiology of the Smolensk MI and the Oncological Dispensary of the Smolensk Oblast.)

The authors found that massive roentgenization of guinea-pigs, producing acute radiation sickness with death in 20-30%, administered before intracutaenous immunization with massive doses of tularemia vaccine, though producing some peculiarities, did not lead to changes in the morphological specificity of the vaccinal process. The clinical course of this was identical in radiated and not radiated animals.

669. Shevelev, A. S. and Prudnikova, M. N., Influence of ionizing radiations on the process of immunogenesis resulting tularemia vaccine. Biul. eksp. biol. 49 (1960) 5: 94-98.

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(From the Departments of Microbiology, Roentgenology and Radiology of the Smolensk MI and the Sanitary-Epidemiological Station of the Smolensk Oblast.)

The general conclusion of the authors of this article, the details of which must be studied in the original or in a translation of the text, was that the process of formation of an immunity against tularemia after the administration of live anti-tularemia vaccine was rather radio-resistant.

670. Cheremisin, G. G., Immunological reactions in lambs born by mothers vaccinated with the brucellosis strain 19. Veterinariia 39 (1962) 1: 31-33.
(From the Checheno-Ingush SR Veterinary Station.)

The conclusions reached through this study were that

- (1) Before the newborn lambs suckled the milk of mothers vaccinated against brucellosis, they gave negative serological and allergic reactions.
- (2) After the lambs had been with their mothers 7-30 hours and had suckled a few times, they showed in their sera antibodies against brucellosis (agglutinins and complement-fixing substances). The opsono-phagocytic reaction became manifest after 17-30 days. It did not result in the development of an allergic state.
- (3) The degree of the serological and opsono-phagocytic reactions in the lambs depended upon the immunobiological state of their mothers, but was invariably lower than in the latter.
- (4) The appearance of agglutinins and complement-fixing substances in the lambs was due to the intake of the milk of their mothers.
- (5) The serological reactions disappeared considerably more rapidly from the lambs than from their mothers.

671. Kosilov, I. A. and Seletskaya, L. I., Observations on the survival of brucellae during the maturing and freezing of mutton. Veterinariia 39 (1962) 1: 63-64.
(From the Siberian SR Veterinary Institute and the Omsk Meat-Packing Plant.)

In order to study the survival of brucellae in the carcasses of sheep the author experimentally infected 10

animals with a virulent Br. melitensis strain and slaughtered them after one month. Six hours after the death of the animals positive cultures were obtained from the regional lymph nodes in 7 instances, from the spleen once.

The carcasses were then longitudinally divided and one half of each animal was kept for the purpose of maturing at 2-4°C, while the other halves were kept frozen at minus 9-11°C. From the half-carcasses left to mature positive cultures were obtained 9-10 days after the slaughtering in three instances while in a fourth case an animal experiment gave a positive result. The halves kept frozen were examined after three months and positive cultures were isolated from lymph nodes in two instances.

672. Datsevich, L. I., Determination of the brucella types with the aid of differential staining. Veterinariia 39 (1962) 1: 79-80.

The author recommended for slide examination of smears made from saline suspensions of brucella cultures or pathological materials two reagents composed as follows: (1) 4 parts of a 0.5% water solution of methylenblue and 5 parts of a 2% watery solution of safranin, to be kept after mixture at 37°C for a few days; and (2) equal parts of a 1% watery solution of basic fuchsin and a 4% watery solution of brilliant-green. Each of the components was first heated to 70-80°C and the solutions were then mixed while still hot. The mixture was left to mature at 37°C for 24 hours. Both reagents kept well for 6 months, if stored in the dark at room temperature in well closed bottles. Two smears were made from the material under test and stained respectively with these two reagents.

If in the smear stained with the fluid No. 1 light or dark-blue stained organisms were detected under the microscope, the presence of Br. abortus bovis was proved, while the presence of red-stained organisms indicated that they belonged to the types Br. suis or melitensis. To distinguish between these, the slide stained with the second reagent was inspected. If the organisms showed a red or brownish-red color, they were Br. melitensis, if colored bluish-green, they were of the type Br. suis.

673. Malakhov, IU. A., Observations on the carriage of listeriae by rats. Veterinariia 39 (1962) 2: 41-42.

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(From the Moscow Technological Institute of the Meat and Milk Industry.)

This article is mentioned by title.

674. Nikiforov, N. I., Results of two years' campaigns against rodents in the Tambov Oblast. Veterinariia 39 (1962) 3: 20-22. (From the All-Soviet SR Institute of Veterinary Sanitation.)

The author describes the organization of mass campaigns against the common rats and mice in the Tambov Oblast during the period from 1959 to 1960. During that time 807 pig-breeding farms (92.1% of the total), 463 fowl-breeding farms (95.4%), 1,030 cattle-breeding farms (87.3%) and 4,003 other agricultural establishments (79.6%) were freed from these rodents and much was done as well to destroy these pests on the fields, pastures and the like. 252,000 rat carcasses and 319,000 mouse carcasses were collected. Used for the campaigns were 1,460.6 kg of zoocoumarin, 1,025 kg of red Scilla maritima, 127.5 kg krysid, 10,110 kg of zinc phosphide and 2,720 kg of bacterial cultures suitable for rodent eradication.

675. Naimanov, I. L., The reactivity of sheep to brucellosis according to the age of animals. Veterinariia 39 (1962) 3: 48-50. (From the Buriat Agricultural Institute.)

The observations set forth in detail by the author indicated that the sheep most frequently reacted to immunological tests at the age of five years and that also abortions were most frequent in this age group.

676. Abakin, S. V. et al., Study of the vaccinal strain Brucella abortus 104-M in sheep. Veterinariia 39 (1962) 3: 51-53.

The conclusions of the author were that

"1. The culture Br. abortus 104-M can be isolated from the blood of immunized sheep during 2 weeks, is well inoculable and persists longer in the vaccinated sheep than the culture Br. abortus 19.

2. Histological examinations of sheep immunized with a vaccine prepared from the strain Br.

abortus 104-M showed the presence of a stormy cell reaction (most marked at the end of the first month after immunization) which was not accompanied by the development of destructive necrotic processes. In the sheep vaccinated with the strain Br. abortus 19 the cell reaction in the lymph nodes and organs was less marked.

3. Noting that the vaccinal strain Br. abortus 104-M is more immunogenic for sheep than the strain Br. abortus 19, it is indispensable to continue a study of the former strain in order to arrive at a final conclusion whether it can be used in the actual immunization campaigns for sheep."

677. Zhdanov, V. M., The mechanism of the interaction of virus and cell. Sovetskaia meditsina 27 (1963) 9: 6-11.

This disquisition by one of the leading Soviet medical scientists can be quoted only by title.

678. Mergol'd, D. P., Clinique and diagnosis of brucellar sacroileitis in the final stage of the disease. Sov. med. 27 (1963) 9: 51-59.
(From the Department of General Surgery of the Kuibyshev MI.)

This well documented illustrated article deals with the clinical findings in 49 out of a total of over 500 brucellosis patients with lesions of the locomotor apparatus who showed affections of the sacroiliac joint.

679. Mozzhukin, IU. P., On the causes of pasteurellosis enzootics of the cattle in the Pri-Amur region. Veterinariia 39 (1962) 4: 29-30.
(From the Veterinary-Bacteriological Laboratory of the Amur Oblast.)

Contrary to the generally accepted view that apart from the Transcaucasus area cattle pasteurellosis is rare in the Soviet Union, the author stated that the disease was also frequent in the Pri-Amur region. During summer pasteurellosis enzootics may cause there on some farms the death of up to 60-70% of the calves. The disease was also found in adult cattle and in 28% of 233 over one year old pigs.

The author concluded from a study of the epizootology and ecology of the disease, for the detailed results of which the original or a translation of the text must be consulted, that the Pri-Amur region is permanently affected by cattle pasteurellosis and that, therefore, the implementation of systematic measures against this infection, including vaccination campaigns, is indispensable.

680. Burdov, A. N., Combined vaccines against anthrax and anaerobic infections. Veterinariia 39 (1962) 4: 31-33.
(From the All-Soviet Institute of Experimental Veterinary Medicine.)

The author of this article, to which no reference list is added, pointed out that the possibility of combining anti-anthrax vaccination with the immunization against other infections had been explored by earlier observers. Thus Amanzhulova and her associates (1926), Kagan and Kovalenko (1932), Terent'eva and more recently Kolesova and Mikhailova (1956) were interested in the combined (or rather simultaneous) vaccination of cattle against anthrax and emphysematous carbuncle.

The present author studied the possibility of using a combined vaccine against anthrax, emphysematous carbuncle and "bradzot," an infectious disease of sheep caused by Clostridium septicum and allied organisms. In order to avoid a destruction of the anthrax spores by the other, formolized components of this vaccine, he worked out a method of neutralizing the residual formol in the latter, in regard to which no details are furnished.

Using combined vaccines consisting of two or all three above mentioned components, the author found that

- "1. The method of neutralizing the residual formol in the formolized vaccines renders it possible to prepare a combined vaccine consisting of inactivated (formolized) and live components.
2. Used under experimental conditions on guinea-pigs and sheep, the combined vaccine against anthrax and anaerobic infections proved immunogenic and conferred, if administered in single doses, an immunity against artificial infection with lethal of the causative organisms of anthrax, emphysematous carbuncle and the "bradzot" of sheep.

3. In sheep there persisted 5.5 months after the combined vaccination an intense simultaneous immunity against these three infections.

4. The combined vaccine remains potent for not less than one year."

681. Borzenkov, D. S., Aerogenous vaccination of birds against (avian) plague. Veterinariia 39 (1962) 4: 44-45. (From the All-Soviet SR Institute of Fowl-Breeding.)

The author used a vaccine against avian plague manufactured from the strain B₁ in the Kursk Biofabrika which, in a dilution of 1:200 made with distilled water, was dispersed in an aerosol chamber of the type B-3. This chamber was capable of dispensing up to 10 ml of fluids per minute. Sufficient amounts of vaccine were used to produce a concentration of 2-3 ml per cubic meter.

As shown in a table, out of 28 chickens simultaneously immunized in this manner, 24 became immune to avian plague after 6-10 days. Though the immunity began to abate after 40 days, the author recommended the method of aerosol immunization because it obviated the individual handling of the birds.

682. Khundanov, L. E. et al., Use of sulfanilamide preparations in experimental melioidosis. Veterinariia 39 (1962) 4: 51-52. (From the Irkutsk SR Anti-Plague Institute of Siberia and the Far East.)

As shown in a table, norsulfazol proved comparatively most effective for the treatment of guinea-pigs experimentally infected with 20 lethal doses of a culture of B. malleomyces pseudomallei.

683. Kozlov, N. P., Experience of liquidation of the rats in a settlement. Veterinariia 39 (1962) 4: 75-77. (From the Agricultural Experimental Station of the Kokchetvask Oblast.)

The method of rat-eradication used with complete success by the author consisted of (a) initial distribution

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of poison-baits containing 1% krisyd or 3-5% zinc phosphode; (b) sealing of all rat-holes with clay to which pieces of broken glass had been admixed; (c) distribution of anti-coagulants (4% zoocoumarin or 3% ratindan) which, whenever necessary, was repeated to deal with single survivors or immigrating rodents.

684. Tkacheva, N. V., Eradication of muridae with bacto-coumarin. Veterinariia 39 (1962) 4: 77.
(From the Volgograd SR Veterinary Laboratory.)

For the eradication of the rats and mice on a pig-breeding communal farm the author resorted to a 4 times repeated distribution of grain baits which contained besides bacterial cultures suitable for rodent destruction (strains Isachenko or 5170) also 2% zoocoumarin. Sick and dead rats were observed after 5-7 days and the rodents appeared to have become absent after 8-10 days.

685. Amitrov, V. K., Cultivation of brucellae on semi-liquid agar. Veterinariia 39 (1962) 4: 86-87.

The author found the semi-liquid agar prepared in the Leningrad Veterinary Institute for vibriosis work also suitable for the rapid detection of Br. abortus bovis in aborted animals. No details are furnished regarding the preparation of this medium.

686. Spirov, G. A. and Efimov, V. A., Intensification of the measures for the fight against zoonoses. Veterinariia 39 (1962) 5: 12-20.
(From the Directorate of Veterinary Medicine, Ministry of Agriculture, RSFSR.)

This article, containing a report on a meeting dealing with the control of zoonoses, particularly of brucellosis, animal tuberculosis and rabies, held under the auspices of the Ministries of Health and of Agriculture of the RSFSR in February 1962, must be studied in detail by those interested in the enumerated infections. While the progress made in the fight against these diseases and the resulting decrease of their incidence was appreciated, stress was laid upon the need for an improvement and amplification of the work done so far.

The text of the resolutions passed at this conference is appended (see Veterinariia 39 [1962] 5: 21-26).

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687. Orlov, E. S., Methods of fight against brucellosis in agricultural animals.
Veterinariia 39 (1962) 5: 40-44.
(From the All-Soviet Institute of Experimental Veterinary Medicine.)

The article, which was read at the above mentioned conference, must be studied in the original or a translation of the text.

688. Zotov, A. P., African plague of whole-hoofed animals.
Veterinariia 39 (1962) 5: 65-72.
(From the All-Soviet Institute of Experimental Veterinary Medicine.)

This survey of observations made outside the Soviet Union can be quoted only by title.

689. Zharov, V. G., Disinfection of eggs in the case of avian pasteurellosis. Veterinariia 39 (1962) 5: 79-80.
(From the Kuibyshev SR Veterinary Station.)

The author summarized the results of his observations by stating that

"Eggs, the surface of which has been contaminated with the causative organisms of avian pasteurellosis, become disinfected if kept in a 0.5% suspension of freshly slacked lime for 6 hours, in a 1% solution of iodine for 10 minutes, in a purified solution of calcium hypochlorite containing 1-1.2% of active chlorine for not less than 10 minutes and in a 4% solution of iodine monochloride for not less than 15 minutes."

690. Siurin, V. N. and Chistova, Z. IA., Contribution to the problem of the specific prophylaxis of poultry pox.
Veterinariia 39 (1962) 6: 42-49.
(From the All-Soviet SR Institute of Veterinary Virology and Microbiology of the USSR Ministry of Agriculture and the Scientific-Manufacturing Laboratory for the Study of the Diseases of Young Agricultural Animals, Ministry of Agriculture, RSFSR.)

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In this article, to which a long reference list quoting almost exclusively foreign papers is appended, the two authors recommend the following methods for the fight against poultry pox:

- (1) Immediate isolation and killing of infected birds
- (2) Systematic immunization and re-vaccination with the improved pigeon virus vaccine produced by the GNKI (State Scientific Control Institute).
- (3) Simultaneous thorough cleaning and disinfection of the yards.
- (4) Adoption of long-range plans for the continuous implementation of these and other preventive measures including a periodical inspection of the bird populations of the farms.

691. Svistunov, N. M., Experience in the sanitation of a farm affected by sheep brucellosis. Veterinariia 39 (1962) 7: 38-39. (From the Model Farm "Proletarskii," Rostov Oblast.)

The main recommendations of the author were that

- (1) In order to eradicate sheep brucellosis it is indispensable to keep besides these animals the other agricultural animals as well as the watch-dogs under constant observation. In non-infected farms the animals must be examined once every year with the aid of complement fixation and allergic tests. More frequent tests must be made according to the situation in brucellosis-affected farms. The animals showing positive or doubtful reactions and also aborting animals must be isolated and sent to the meat-packing plants.
- (2) The young animals must be raised separately. Brucellosis-free herds and farms must be guarded against an importation of the infection.

692. Zhakov, M. S., Contribution to the knowledge of the morbid anatomy of sheep listeriosis. Veterinariia 39 (1962) 7: 39-41. (From the Vitebsk Veterinary Institute.)

693. Ganiev, T. K. and Mamedova, D. G., Contribution to the problem of the occurrence in natural foci in the case of listeriosis of agricultural animals. Veterinariia 39 (1962) 8: 22-24. (From the Azerbaidzhan SR Veterinary Institute.)

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694. Sergeev, V. A. and Fedorova, T. L., Comparative evaluation of the method of titration of the foot-and-mouth disease virus. Veterinariia 39 (1962) 8: 67-69. (From the All-Soviet Institute of Veterinary Virology and Microbiology, Ministry of Agriculture, USSR.)
695. Nogina, V. T., Production of type-specific foot-and-mouth disease sera from adult rabbits. Veterinariia 39 (1962) 8: 69-72. (From the Novosibirsk SR Veterinary Station.)
696. Bakulov, I. A. et al., Conjunctival test on guinea-pigs and rabbits for the diagnosis of listeriosis. Veterinariia 39 (1962) 8: 75-77. (From the Moscow Veterinary Academy.)

These five papers are quoted by title.

697. TSeloval'nikov, A. I. and Ubeev, A. D. (Buriat ASSR), Efficacy of the precipitated formolized vaccine against yak pasteurellosis. Veterinariia 39 (1962) 8: 30-31.

The authors found the formol vaccine against pasteurellosis (hemorrhagic septicemia) effective in yaks as well as in cattle, sheep and pigs.

698. TSokolenko, D. T. and Chernyi, P. B., Identification of the anthrax bacillus and detection of its pathogenic properties with the aid of a modified animal test. Veterinariia 39 (1962) 8: 77-78. (From the Laboratory of Veterinary Bacteriology in Berdichev, Zhitomir Oblast.)

As noted by the authors, Shliakhova and Gruz recommended in 1961 the following method for the identification of the anthrax bacillus and for the simultaneous demonstration of its virulence:

A suspension of the material under test was administered to white mice by the intraperitoneal route. Two of the animals each were sacrificed 60, 120 and 180 minutes after

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infection, while the remaining two mice were kept as controls. Capsulated anthrax bacilli were found to be present in the animals already 60-120 minutes after the infection.

The present authors used only groups of three white mice for their tests, administering to two 0.5 ml amounts of saline suspensions of the suspect material by the intraperitoneal route and giving the same dose subcutaneously to a control animal. The former two mice were sacrificed after 90, respectively after 120 minutes and smears were made from the intraperitoneal fluid. When the latter were stained according to Mikhin's method for capsular staining, it was possible to detect organisms showing the appearance of anthrax bacilli. The control animals died in positive cases after 12-24 hours, when the presence of anthrax bacilli in the heart blood could be confirmed by smear examination and cultivation on suitable media.

The authors stressed the simplicity and expedience of their method.

699. Vostrikov, N. I., Observations on the improvement of the serological diagnosis of cattle brucellosis.
Veterinariia 39 (1962) 8: 78-79.
(From the Inter-Ration Veterinary-Bacteriological Laboratory in Chaplygin, Lipetskii Oblast.)

Making 1,027 tests, the author was able fully to confirm the contention of Karkadinovskii and his associates (Veterinariia [1961] No. 11) that

"for the serological diagnosis of cattle brucellosis it is more useful to resort only to agglutination tests in 12% NaCl solutions instead of the presently used two reactions--complement fixation tests and agglutination tests in 0.85% saline solutions.... The agglutination reaction in 12% saline is not less sensitive than the complement fixation test and simpler to perform."

700. Mikhal'skii, G. A. and Antonova, M. E., Contribution to the problem of the efficacy of anti-pasteurellosis vaccines prepared from the strains AB and K. Veterinariia 39 (1962) 9: 47-48. (From the Scientific-Manufacturing Laboratory for the Fight Against the Diseases of Young Agricultural Animals, Ministry of Industry and Preparation of Agricultural Products, RSFSR.)

The authors found the anti-pasteurellosis vaccines prepared in the Krasnodar Veterinary Station effective. 60-80% of the chicken immunized with these products resisted challenge after 3-5 months and the same held true of 80-100% of the ducks challenged 5-6 months after the vaccination.

701. Uzakov, U. IA., Experience in the fight against ixodes ticks. Veterinariia 39 (1962) 9: 68-70.
(From the All-Soviet Institute of Veterinary Sanitation.)

As discussed in this paper, the Soviet-produced insecticide chlorofos proved suitable for the destruction of ixodes ticks infesting the cattle.

702. Gushchin, N. I., Efficacy of measures against foot-and-mouth disease determined in accordance with the milk productivity of the cows. Veterinariia 39 (1962) 10: 11-17.
(From the Laboratory of Veterinary Economy of the State Scientific Control Institute of Veterinary Preparations.)
703. Dzhupina, S. I. and Sviridov, A. A., Observations on the role of animals that had foot-and-mouth disease in the spread of the disease. Veterinariia 39 (1962) 10: 26-29.
(From the Department of the Production and Preparation of Agricultural Products of the Novosibirsk Oblast and the Novosibirsk SR Veterinary Station.)
704. Ogryzkov, S. E., Observations on the course of foot-and-mouth disease in reindeers. Veterinariia 39 (1962) 10: 54-55.
(From the All-Soviet Institute of Experimental Veterinary Medicine.)

These three articles are quoted by title.

705. Shcherbatykh, P. IA. et al., Use of globulins in pig pasteurellosis. Veterinariia 39 (1962) 10: 33-35.
(From the Leningrad Veterinary Institute.)

The authors proved through experiments in white mice and young pigs that the specific globulins obtained from

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hyper-immune anti-pasteurellosis sera showed a high therapeutic and prophylaxis efficacy. It was therefore recommendable, especially in the case of weak animals, to follow the immunization with anti-pasteurellosis virus vaccine after 24-48 hours by the administration of these specific globulins. The immunity thus conferred to the animals lasted for 4.5 months.

706. Aleksandrov, N. A., Pig pasteurellosis. Veterinariia 39 (1962) 10: 35-37.

The author reported that out of 309 spontaneously succumbing pigs bacteriologically examined by him 40 were affected by pasteurellosis, 41 by paratyphoid, by other infectious diseases. Since pasteurellosis and paratyphoid infections were apt to be present simultaneously, it was advisable to combine immunizations against these two infections.

707. Riazantsev, M. F. (Kanev Raion, Krasnodar Krai), Efficacy of the live vaccine prepared from the strains AB and K in avian pasteurellosis. Veterinariia 39 (1962) 10: 51-52.

As stated in this brief note, vaccination of ducks, first with 0.4 ml of a vaccine prepared from the pasteurella strain AB and after a week with 0.2 ml of the vaccine K, combined with a thorough disinfection of a pasteurellosis-affected communal farm gave good results. The authors noted, however, that drawbacks of these vaccines, which had been prepared in the Krasnodar Veterinary Station, were (a) the need for two administrations; (b) the instability of the vaccines which remained potent only for 1.5 months and (c) their short-lasting effect, chickens remaining protected for 3 months and ducks for up to 6 months.

708. Korotich, A. S. et al., Examination of the vaginal mucus of cows as a method of diagnosing brucellosis. Veterinariia 39 (1962) 10: 78-81.
(From the Kiev SR IEM, the Laboratory of Veterinary Bacteriology of the Donets Oblast and the Sanitary-Epidemiological Station of the Donets Oblast.)

The authors stated that according to their preliminary observations

"the agglutination reaction and complement fixation tests with vaginal mucus give a positive

result 2-3 months before abortion. The reactions persist for some months after abortion.... In vaccinated animals, even though high titers of agglutinins and complement-fixing antibodies are present in the blood, the reactions with the vaginal mucus give a negative result."

Added to this article are the following untitled notes dealing with the same subject:

- 1) Rotov, I. V. (Far-Eastern SR Veterinary Institute). Pp. 81-83.

In the concluding paragraph of the text it is stated that

"The results of the investigations not only confirm the specificity of the tampon reaction in brucellosis but show that the animals giving a positive result with this reaction are carriers of brucellosis and, consequently, epizootologically dangerous. This reaction disappears a short time after vaccination, which gives reason for its large-scale investigation with the aim of finding a differential diagnosis between spontaneously brucellosis-affected animals and such reacting as a result of the administration of the vaccinal strain 19."

- 2) Ledin, V. E. (Republican Laboratory of Veterinary Bacteriology, Ukrainian Ministry of Agriculture). Pp. 83-85.

The conclusions reached by this observer were that

"1. Agglutination and complement fixation tests with the vaginal mucus proved specific in brucellosis of cattle and sheep.

2. Reactions with the vaginal mucus may be made for a differentiation of naturally infected animals from vaccinated animals, but they cannot be used as an independent method of brucellosis diagnosis."

- 3) Kurakina, T. A. (Serological Department of the Veterinary-Bacteriological Laboratory of the L'vov Oblast). Pp. 85-86.

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In the opinion of this worker agglutination and complement fixation tests with blood serum were of fundamental importance in the diagnosis of cattle brucellosis. Good results, coinciding with the outcome of serological tests, could be obtained with ring precipitation tests in milk. However, the author maintained,

"The number of identical results of tests with serum and with the vaginal mucus according to the method of A. S. Korotich is more than two times less in comparison to the identical results obtainable through examination of the blood serum and the milk."

In the opinion of Kurakina it was still undecided whether Korotich's reaction was useful for differentiation of naturally brucellosis-affected and vaccinated animals.

709. Cheremisin, G. G. et al., Observations on the state of immunity in sheep immunized with a vaccine prepared with the strain 19. Veterinariia 39 (1962) 11: 37-38.
(From the Checheno-Ingush SR Veterinary Station.)

The author found that

"the most intense immunity, as determined by observations on the phagocytosis and lysis of the brucellae, is present 19, 33, 60, 94 and 150 days after the vaccination of young rams. Then the intensity of the immunity decreases and 7.5-8 months after the vaccination the state of immunity gets completely lost."

710. Kovalenko, I. A. R., African swine plague. Veterinariia 39 (1962) 11: 75-79. (From the All-Soviet Institute of Experimental Veterinary Medicine.)

This well documented survey of the foreign literature can be quoted by title only.

711. Savich, B. M. et al., Investigations of an avirulent vaccine against avian pasteurellosis. Veterinariia 39 (1962) 12: 32-37.
(From the Piatigorsk Inter-Oblast Veterinary Laboratory for the Fight Against Poultry Diseases.)

This report on mass trials with a living vaccine against fowl pasteurellosis does not lend itself to the purposes of a brief analysis. The authors recommend mass production of this vaccine.

712. Butkin, E. I., Efficacy of live anti-pasteurellosis vaccine. Veterinariia 39 (1962) 12: 37-38.
(From the SR Veterinary Laboratory of the Kursk Oblast.)

As can be gathered from this article, the live anti-pasteurellosis vaccine gave satisfactory results only in farms threatened by the infection but not during acute outbreaks of the disease.

713. Kolomakin, G. A., Contribution to the problem of brucellosis diagnosis in cows. Veterinariia 39 (1962) 12: 61-62.
(From the Veterinary-Bacteriological Laboratory of the Alma-Ata Oblast.)

This note cannot be briefly reviewed.

714. Kolesov, S. G., Improvement of the methods of prophylactic vaccinations. Veterinariia 38 (1961) 1: 27-29.
(From the State Scientific Control Institute of Veterinary Preparations.)

In this article, the details of which do not lend themselves to the purpose of a brief review, the author advocates in particular the expedient method of combined vaccinations and stresses the necessity of further investigations in this field by the veterinary research institutes.

Regrettably no reference list is added to this informative statement.

715. Lysenko, I. P. and TSymbal, A. M., Experiences of combined immunization of pigs against the most dangerous infectious diseases. Veterinariia 38 (1961) 1: 30-33.
(From the Ukrainian SR Institute of Experimental Veterinary Medicine.)

Experimenting with 67 pigs two to eight months old, the authors explored the possibilities of combined immunizations

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of these animals against swine plague and foot-and-mouth disease; swine plague and Aujeszky's disease; swine plague, Aujeszky's disease and swine erysipelas and finally against all four infections. The practically important results of these investigations were thus summarized by the authors:

- (1) If the vaccines against swine plague and foot-and-mouth disease are mixed in suitable proportions, one may obtain a combined vaccine conferring a solid immunity against both infections.
- (2) In the case of some quantitative relations of the vaccines, the foot-and-mouth disease vaccine inhibits the production of an immunity against swine plague to some extent, while the anti-plague stimulates the production of an immunity against foot-and-mouth disease.
- (3) The vaccine against Aujeszky's disease inhibits the production of anti-plague immunity if combined with the vaccine against swine plague and apparently inhibits also the production of an immunity against foot-and-mouth disease and swine erysipelas if used in the corresponding vaccine combinations.

716. Mal'tsev, G. B., Experience on the liquidation of fowl cholera (avian pasteurellosis). Veterinariia 38 (1961) 1: 46.
(From the Sovkhoz "Vinogradovskii," Odessa Oblast.)

As described in this brief note, a combination of treatment with sulfadimezin and specific vaccination suppressed two manifestations of avian pasteurellosis.

717. Masiukov, A. V. and Globova, I. IA., Live vaccine against avian pasteurellosis and the materials for its investigation. Veterinariia 38 (1961) 1: 47-51.
(From the Krasnodar SR Veterinary Station.)

In this article the authors record large-scale trials with vaccines prepared from the attenuated avian pasteurellosis strain K (Krasnodar), obtained in 1957 by Glebova with the aid of passages through guinea-pigs and meadow frogs..

The authors discount the fear that the use of this vaccine might lead to an exacerbation of the supposedly frequent latent forms of avian pasteurellosis.

718. Zotova, A. A., Difenatsin - a raticide. Veterinariia 38 (1961) 1: 72-74.
(From the All-Soviet SR Institute of Veterinary Sanitation.)

Working with difenatsin (diphenyl-acetyl-indadione) synthesized in the Soviet Union and manufactured in the Latvian Republic, the author found that this preparate did not cause bait-shyness in the rodents and, if used 2-3 times, killed the animals after 3-5 days. The compound appeared to be innocuous for young domestic animals.

719. Zhurnakova, M. A., Detection of brucellae in extrinsic objects with the aid of complement fixation tests. Veterinariia 38 (1961) 1: 75-77.
(From the Leningrad SR Veterinary Institute.)

As described in detail in this article, the author found complement fixation tests suitable for the detection of brucellae in extrinsic objects like water, soil, hay, aerosols, cotton materials, and on wooden articles and the leaves of plants. Positive results could be obtained with the aid of this method in 4-5 hours.

720. Kazakov, I. F. et al., Treatment of cattle affected by foot-and-mouth disease with bees-wax ointment. Veterinariia 38 (1961) 2: 37-38.
(From the Kazan Veterinary Institute.)

721. Barsukov, P. A., Contribution to the problem of electrophoresis of penicillin. Veterinariia 38 (1961) 2: 63-65.
(From the Iakutsk State University.)

722. Gladenko, I. N. and Prostiakov, A. P., Determination of hexachlorane in animal and vegetable materials. Veterinariia 38 (1961) 2: 83-86.
(From the Ukrainian SR Institute of Experimental Veterinary Medicine.)

723. Vasin, A. V. and Kvitkin, Iu. P., Salicylate method of DDT determination in biological materials. Veterinariia 38 (1961) 2: 86.
(From the Saratov SR Veterinary Institute.)

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724. Andreev, K. P., Insecticides for the fight against harmful insects and ticks in the animal husbandry of the United States. A survey of the literature. Veterinariia 38 (1961) 2: 90-92.

These five papers are quoted by title.

725. Terent'ev, K. M. et al., Production and use of concentrated hyperimmune sera. Veterinariia 38 (1961) 2: 43-45.
(From the Moscow Technological Institute of the Meat and Milk Industry.)

The authors found that hyperimmune sera against swine plague, swine erysipelas and against paratyphoid and coli bacillosis do not lose their potency if concentrated in the contrivances used for the concentration of milk. They stressed that the removal of 50-75% of the water from the sera was apt to decrease markedly the expenses for bottling, packing and shipping.

726. Egorov, V. I. and Spitsina, N. A., Some peculiarities of the gas and nitrogen exchanges in the process of the growth and development of the anthrax bacilli. Veterinariia 38 (1961) 2: 45-47.

Commenting upon their observations in the concluding paragraphs of their well documented article, the authors stated that

"In the light of the peculiarities of the nitrogen nutrition and the gas exchange detected in the anthrax bacillus it is possible to arrive at a more definite clarification of the conditions indispensable for spore formation. Usually these conditions are characterized as 'conditions of starvation.' If this terminology is still used, the 'conditions of starvation' should be taken to mean not an exhaustion of the nutrient medium or of the protein substances necessary for vegetative growth, but a mineralization of the habitat of the organism. Apparently, when a certain stage in the mineralization of the protein medium is reached (the penetrability of the cell protoplasm increases under these conditions), there results a blockage of the system of ferments, the activity of which is directed to the protein metabolism.

The poorer the medium gets in protein substances, the more rapidly there results an equilibrium between the protein and mineral forms of nitrogen in the medium and then a preponderance of the latter form. Such a balance of the two forms of nitrogen is not reached if the organisms are cultivated in a medium rich in protein substances. As is known, spore formation remains altogether absent in this case. The cells, not finding in the medium conditions for a transition into the following stage of development, assume involution forms and become degraded.

This can be avoided by an artificial change of the nitrogen composition of the fluid medium, thus influencing the process in the desired direction.

Cultivation of the organisms in an atmosphere rich in oxygen gives additional possibilities for an intensification of the process of growth and spore formation."

727. Natalukha, I. A. M. and Vil'vovskii, G. B., Liquidation of swine plague immediately in the foci of active infection. Veterinariia 38 (1961) 3: 22-26.
728. Il'in, V. G., Radiational and hygienic evaluation of the milk and meat of cows affected by radio-active iodine. Veterinariia 38 (1961) 3: 69-70.
729. Kolotii, N. A., Chlorofos as an effective means for the fight against Argas persicus ticks. Veterinariia 38 (1961) 3: 73-74.
(From the Sovkhoz-Kombinat "Iuzhnyi," Crimean Oblast.)

These three articles are quoted by title.

730. Amitrov, V. K. et al., Pasteurellosis of cattle. Veterinariia 38 (1961) 3: 30-32.
(From the Veterinary Laboratory of the Penza Oblast.)

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The conclusions reached in this article were that

- (1) Pasteurellosis-affected cows excrete the causative organisms not only when coughing, with their nasal secretions and feces, but also in their milk.
- (2) Infected milk and skimmed milk can serve as sources of pasteurellosis infection.
- (3) Artificial infection of mice with pasteurella cultures per os produced a lethal infection in the animals.
- (4) An alimentary pasteurellosis infection of calves is not merely possible but actually occurs.
- (5) Treatment of pasteurellosis-affected calves with specific serum and penicillin was little effective.

731. Pankratov, A. IA. et al., Times of the occurrence of the vaccinal strain 19 in sheep vaccinated against brucellosis and changes in the organs of the vaccinated animals. Veterinariia 38 (1961) 3: 45-46.
(From the Kirghiz SR Institute of Husbandry and Veterinary Medicine.)

Experimenting on 29 four months old lambs, the authors found that 10 days after a single administration of the anti-brucellosis vaccine the serum agglutinin titer had reached levels from 1:1,600 to 1:3,200. The titer was still fairly high (1:800) 15 days after the vaccination but was found to be low in animals sacrificed later (1:25 three months after immunization). Complement-fixing antibodies appeared 15 days after vaccination and were found to have disappeared after 3 months.

A bacterial invasion of almost all organs of the experimental animals became manifest already 5 hours after the vaccination and persisted for 10-15 days. From then until 2 months after the immunization positive cultures could be obtained only from various lymph nodes. Cultivations taken later remained as a rule negative, but it is noteworthy that from animals which had intercurrently succumbed to pneumonia, isolations could still be made 95, respectively 108 days after vaccination.

The morbid changes in the lymph nodes and internal organs of the vaccinated animals, briefly described by the authors, were most marked from the 15th to the 45th day after immunization.

732. Stolbikov, U. P., Use of rivanol for the production of the gamma-globulins of anti-brucellosis sera. Veterinariia 38 (1961) 3: 76-79.
(From the Moscow Veterinary Academy.)

The highly technical details of this article must be studied in the original or in a translation thereof. The author considered the method devised by him as suitable for practical purposes.

733. Alikaev, V. A., Laboratory diagnosis of infectious animal diseases. Veterinariia 38 (1961) 3: 80-83.

In this review of recently recommended laboratory procedures the following noteworthy publications have been considered:

- (1) Posokhin, E. G., Rationalization of the method of differentiation of the brucella types. Veterinariia 38 (1961) 3: 82.
(From the SR Veterinary Station of the Stavropol Krai.)

As the reviewer (Alikaev) stated

"E. G. Posokhin recommended to prepare from the washings of 2-days old brucella cultures a suspension with a concentration of 1 billion per ml. Then 10 ml of sterile normal saline are put into a 25 ml flask and with the aid of a previously calibrated platinum loop 0.001 ml of the bacterial suspension is added. After shaking the flask for 1-2 minutes one obtains thus a suspension with a concentration of 100,000 organisms. With the aid of a second platinum loop with a diameter of 2 mm the suspension is then used for the inoculation of the colored differential media."

Posokhin also recommended a method for the preliminary testing of these media with standard brucellosis strains, for the details of which the original or a translation must be consulted.

- (2) Loginov, F. S. et al., Observations on the diagnosis of brucellosis in reindeers. Veterinariia 38 (1961) 3: 82-83.
(From the Siberian SR Veterinary Institute and the Veterinary-Bacteriological Laboratory of the Yakutsk Republic.)

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According to the authors it is indispensable to use complement fixation tests as well as agglutination tests for the laboratory diagnosis of brucellosis in reindeers.

- (3) Kul'diakin, N. P., A slide method for the diagnosis of brucellosis with the aid of agglutination reactions. Veterinariia 38 (1961) 3: 83.
(From the Troitsk Inter-Sovkhoz Laboratory of Veterinary Bacteriology.)

The slide agglutination test recommended by the author gave in large-scale trials in 99.6% results identical with those of complement fixation tests.

- (4) Annagiev, A. A., A new method of artificial infection of sheep with listeriosis. Veterinariia 38 (1961) 5: 43.
(From the Azerbaidzhan SR Veterinary Institute.)

In tests on sheep the author obtained good results with introduction of material from a listeriosis culture into the submucosa of the upper lip.

734. Zelenskii, V. P., Antibiotics, sulfonamides and specific sera in the treatment of pasteurellosis in pigs. Veterinariia 38 (1961) 5: 34-36.
(From the Leningrad SR Veterinary Institute.)

Investigations made during the period from 1957 to 1960 led the author to the following conclusions:

- "1. Ecmonovocillin (or penicillin) and streptomycin are capable of a combined action in pasteurellosis and give a good therapeutic effect in doses of 1-1.5 thousand units per kg of body weight if administered once daily for 3-4 days.... The efficacy of this treatment is increased if it is combined with the administration of anti-pasteurellosis serum.
2. A good therapeutic effect is obtained through combination of an administration of anti-pasteurellosis serum in a therapeutic dose with that of oxytetracycline (terramycin) in a dose of 4,000 units per kg body weight, administered once daily intramuscularly for 3 days.
3. Highly efficacious is also chlortetracycline (biomycin) given in the form of a 1% solution in 0.5 ml doses per kg body weight once daily for 3 days."

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735. Davydov, N. N., Contribution to the study of brucellosis in reindeers. Veterinariia 38 (1961) 5: 48-61. (From the All-Soviet Institute of Experimental Veterinary Medicine.)

In order to get acquainted with the results of this large-scale and carefully conducted study of brucellosis in reindeers, the original publication or a translation of its text must be consulted. Specially noteworthy is that the author explored the possibility of an immunization of the animals simultaneously against anthrax (strain STI) and against brucellosis (strain 19). The intensity of the immunity thus produced against brucellosis was not high, but, as the author claimed, of a sufficient degree to protect the animals against infection under natural conditions.

736. Siurin, V. N., The problem of active prophylaxis against the virus diseases of animals and means for its solution. Veterinariia 38 (1961) 6: 36-42.

This survey of the literature, based mostly upon a study of foreign publications, can be mentioned by title only.

737. Khundanov, L. E. et al., Gamma-globulins in experimental anthrax infection. Author's Abstract.. Veterinariia 38 (1961) 6: 45-46. (From the Irkutsk SR Institute MH, USSR.)

As described in this note, the author used for his study the gamma-globulins obtained through purification and concentration of two different sera - one raised in horses with the vaccinal anthrax strain STI, the other with the virulent strain 203.

The purification and concentration of the sera, effected with various concentrations of ethyl alcohol, led to a 5-6 times reduced content in albumins and to a marked decrease of the inert alpha-globulin fraction. The beta-globulin content of the concentrated preparations did not exceed 12.67-17.29%, whereas the content in gamma-globulins was sometimes as high as 76.57-80.55%.

In order to test the efficacy of the concentrated preparations, the authors used two groups of white mice; one of these was first subcutaneously injected with 0.5 ml amounts

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of the concentrated preparations and 18 hours later challenged with 20 DCL of a virulent anthrax culture, whereas the second group of animals was first infected in the same manner and then treated with 0.5 and 0.3 ml doses of the concentrated preparations, administered 6, respectively 18 hours after the infection.

Preliminary tests had shown that the efficacy of the native anti-anthrax sera depended upon their contents in gamma-globulins: the serum raised with the STI strain, which contained 16% of gamma-globulins, was inert, whereas the serum obtained with the aid of the virulent strain 203, which contained 46% of gamma-globulins, protected 26.6% of the test animals against challenge.

As the author continued,

"The purified protein products (gamma-globulins) proved more effective than the native sera. The efficacy of the gamma-globulins of the series 203 was two times higher than that of the original unpurified serum (53.3% survivals). The serum of series 1 (strain STI), ineffective before purification, protected after it 20% of the animals."

738. Braude, N. I., An experimental model for the study of vaccinal brucellosis strains. Veterinariia 38 (1961) 6: 83-84. (From the Moscow SR Institute of Microbiology, Epidemiology and Hygiene.)

The conclusions reached in this well documented study were that

- "1. Mice treated with cortisone were found to be a new model for the study of the residual virulence, invasiveness and immunogenicity of the vaccinal brucellosis strains.
2. The findings made in cortisone-treated mice indicate a higher residual virulence and immunogenicity of the strain Br. abortus 19-BA.
3. Inasmuch as cortisone markedly inhibits the natural resistance of the mice to brucellosis and influences to a very inconsiderable degree the resistance produced by the vaccination, cortisone-treated vaccinated mice are very suitable models for a study of the mechanism of the post-vaccinal immunity.

4. It appears to be very promising to use cortisone-treated mice for diagnostic animal experiments and possibly also for tests to assess the therapeutic action of the various preparations for the treatment of brucellosis."

739. Aleksandrov, N. A., Some peculiarities of foot-and-mouth disease in pigs.
Veterinariia 38 (1961) 7: 42-44.
740. Shabalina, A. V., Listeriosis in the Buriat ASSR. Veterinariia 38 (1961) 7: 45.
(From the Veterinary-Bacteriological Laboratory of the Burian Republic.)
741. Klesmet, O. I., Observations on listeriosis in animals. Veterinariia 38 (1961) 7: 80-81.
(From the Veterinary-Bacteriological Laboratory of the Latvian SSR.)
742. Volik, F. E., Some problems of the diagnosis of listeriosis. Veterinariia 38 (1961) 7: 82.
(From the Veterinary-Bacteriological Laboratory in Melitopol'.)

These four papers are quoted by title.

743. Ivanov, M. M. et al., Contribution to the problem of the preservation of the serological reactions in cows vaccinated against brucellosis.
Veterinariia 38 (1961) 7: 33-37.
(From the Veterinary Department, Ministry of Agriculture, Lithuanian Republic.)

The conclusions reached through this important study were that

- (1) Cows which have been vaccinated against brucellosis and react in agglutination and complement fixation tests or in only one of these tests at high titers for 2-2.5 years or longer, are affected by brucellosis and are dangerous to healthy animals.

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- (2) From many vaccinated cows continuing to show pathologically high titers in their blood for 2.5-5 years, virulent brucellosis cultures of the bovis type could be isolated. Foci of the infection were mainly present in lymph nodes.
- (3) Animals positively reacting in agglutination tests at titers of 1:100 or more for 2.5-3 years after immunization and later on temporarily not showing such titers cannot be considered as recovered from brucellosis, since positive cultures may be obtained from them.
- (4) The appearance of positive agglutination reactions at a titer of 1:100 or more or of positive complement-fixing reactions in cows 2-2.5 years after vaccination must be considered as a sign of a further spread of brucellosis in the herd.
- (5) A persistence of serological reactions in vaccinated cows for 4-5 years, even if characterized by the temporary drop or by oscillations of the titers indicates the presence of a chronic form of brucellosis not apt to be followed by spontaneous recovery. As confirmed by the isolation of virulent brucellosis cultures from such animals, they may be instrumental in spreading the infection for a long time.
- (6) In order to ensure the freedom from infection in the herds of cows which have been vaccinated in the adult state and to avoid a repeated of the infection in such herds it is indispensable to remove and slaughter not only all animals giving positive agglutination reactions at a titer of 1:200 or more or positive complement fixation reactions after 2-2.5 years, but also animals which show only the latter reactions or react in agglutination tests inconstantly with oscillating titers.

744. Shamatava, V. P., An instance of a post-vaccinal outbreak of cattle pasteurellosis. Veterinariia 38 (1961) 7: 37-39.
(From the Georgian Teaching and Research Zooveterinary Institute.)

While admitting that immunization with the precipitated formolized vaccine had led to a considerable decrease of the incidence of cattle pasteurellosis in Georgia, the author of this article stated that the disease continued not only to occur in non-immunized animals but that occasional instances of post-vaccinal outbreaks had been observed.

Briefly describing some manifestations of the latter kind, the author insisted that these could not be ascribed to a

presence of pasteurellae in the vaccine and suggested that the high temperature prevailing at the time of immunization, because lowering the resistance of the animals, might have led to a generalization of the infective process in pasteurellosis carriers. She pointed in this connection to the fact that vaccination campaigns against heterogeneous infections like anthrax and foot-and-mouth disease had been sometimes followed by the appearance of pasteurellosis in the herds.

745. Koshelev, V. C., Hydrochloric oxytetracycline (terramycin) in the cholera of ducks.
Veterinariia 38 (1961) 7: 46.
(From the "Suvorovskii" Sovkhoz, Stavropol Krai.)

Oxytetracycline proved "sufficiently effective" for therapeutic and prophylactic purposes during an outbreak of cholera among the ducks of a communal farm.

746. Belokhvostov, S. D. et al., Contribution to the problem of the destruction of anthrax spores in the extrinsic environment.
Veterinariia 38 (1961) 7: 78-79.

The authors systematically tested the vital resistance of anthrax spores (vaccinal strain STI) on various objects. They concluded the record of their observations, for the details of which the original or a translation must be consulted, by stating that

"The intensity with which the infectivity became lowered, depended to a considerable degree upon the properties of the disinfected objects. On metallic objects the density of infection became more rapidly lowered than on wooden objects and on the latter more rapidly than on cotton materials and cloth. Still, in the majority of the cases single spores continued to exist on the contaminated objects for many days or even months."

747. Bannov, A. T., Observations on the liquidation of foot-and-mouth disease epizootics in the Krasnoiarsk Krai.
Veterinariia 38 (1961) 8: 18-20.
(From the Krasnoiarsk SR Veterinary Station.)

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748. Koročkikh, A. V. et al., Observations on malignant foot-and-mouth disease of the cattle. Veterinariia 38 (1961) 8: 23-24. (From the SR Veterinary Station of the Evdakov Raion, Voronezh Oblast.)
749. Grachev, I. I. and Nepomniashchii, P. T., An instance of mass affection of pigs by tetanus. Veterinariia 38 (1961) 8: 37-38. (From the Krasnoiarsk SR Veterinary Station.)

These three articles are quoted by title.

750. Kagan, F. I. et al., Combined vaccine against emphysematous carbuncle, malignant edema and pasteurellosis. Veterinariia 38 (1961) 8: 21-22. (From the State SR Institute of Veterinary Preparations.)

The authors found a combination of the vaccines against Clostridium chauvoei, Cl. septicum and Pasteurella bovisseptica compatible. The combined vaccine kept well for one year and conferred a sufficiently high degree of immunity to calves and sheep for not less than 4-6 months.

751. Solomkin, P. S. and Dushuk, R. V., A rabbit virus-vaccine prepared with a Soviet strain of the virus of swine plague. Veterinariia 38 (1961) 8: 33-36.

The authors found it possible to adapt a strain of the virus of swine plague to rabbits, 23 passages of the strain through these animals leading to a loss of its virulence for pigs without an impairment of its immunogenic properties.

It is noteworthy that in one of the tests with this vaccine (50th passage), an immunity was produced not only in the vaccinated piglets but also in two contacts. The authors postulated, therefore, that it might be possible to use their vaccine for peroral immunization. Large-scale field tests with this virus vaccine were indicated.

752. Ogarkov, V. I. and Makhrov, N. F., Experience of a long survival of brucellosis strains in a dry conditions. Veterinariia 38 (1961) 8: 70-71.

As shown by the authors, lyophilized brucellosis strains of various types, if kept for 4-10 years, did not lose their

original properties including their virulence. Lyophilization appeared to be preferable for the storage of the strains to their periodical subcultivation.

753. Sviridov, A. P., Liquidation of swine plague in a raion. Veterinariia 38 (1961) 9: 20.
(From a Raion Kolkhoz in the Cheliabinsk Oblast.)

As described in this brief note, all privately owned pigs of the affected area were bought at current prices and slaughtered. The inhabitants were permitted again to acquire pigs 60 days after a thorough disinfection of the farms. In the threatened localities all pigs were immunized with a glycerolyzed crystal-violet vaccine. Piglets 7 days old were given at weekly intervals 3 doses of 2.5 ml of the vaccine each and then after 2 weeks a fourth dose of 5 ml. Re-vaccinations were resorted to not later than 5 months after the first immunizations.

The infection remained absent in the immunized animals.

754. Rotov, I. V. and Stoliarov, G. F., Post-vaccinal immunological activity of the blood of cattle immunized against brucellosis. Veterinariia 38 (1961) 9: 23-25.
(From the Far-Eastern SR Veterinary Institute.)

The conclusions reached by the authors of this article were that

- "1. An examination of the blood serum of cattle in respect to its opsono-phagocytic properties and the presence of bacteriolysins permits an evaluation of the state of the protective powers in the post-vaccinal period and conveys information on the immunological efficacy of the vaccine prepared from the strain 19.
2. An immunological activity of the blood serum persists in the animals up to 2 years old for one year, in adult animals for 6-12 months after the immunization. Re-vaccination stimulates the protective powers of the body (formation of bacteriolysins), which persist for up to 6 months after the immunization. Afterwards, in the case of single as well as of twice repeated vaccinations, the immunobiological activity of the

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blood disappears in the course of a year and a considerable part of the animals (22.2-25.8%) loses the most important immunobiological factors of protection of their body against infection."

755. Tevosov, A. M., Length of the immunity in animals immunized with a vaccine prepared from the strain 19. Veterinariia 38 (1961) 9: 25-27.
(From the Azerbaidzhan SR Veterinary Institute.)

The author stated that

- "1. The dry brucellosis vaccine prepared from the strain 19 produced in healthy calves and heifers immunized once a resistance to experimental infection with 100 infective doses of the virulent Br. bovis culture No. 4004 for 6.5-20 months and in the animals twice immunized at one month's interval a resistance to challenge lasting from 5.5 to 19 months. Cows vaccinated once were immune for two years.
2. During 19 months there existed no differences in the intensity of the immunity in the animals vaccinated once, respectively twice.
3. Healthy calves and heifers, vaccinated once or twice, completely lost their serological reactions (agglutination and complement-fixation tests) 19-20 months after the immunization.
4. 19-20 months after the immunization all vaccinated animals gave negative serological reactions (agglutination and complement-fixation tests) even if they remained immune.
5. The presence of an immunity in the animals vaccinated with the strain 19 and its intensity cannot always be assessed with the aid of the serological reactions."

756. Gorbunova, N. A. et al., Influence of anti-brucellosis vaccination on the protein and the protein fractions of the blood. Veterinariia 38 (1961) 9: 27-29.
(From the Tadzhikistan Agricultural Institute.)

The findings recorded in this article must be studied in the original or in a translation of the text.

757. Grishaev, N. E., Observations on the treatment of pasteurellosis. Veterinariia 38 (1961) 9: 32.
(From the Chul'im Sovkhoz, Krasnoiarsk Krai.)

As stated in this brief note, treatment of pasteurella-infected cattle with specific serum proved effective only if applied early in the disease.

758. Khalimbekov, M. M. et al., Pseudotuberculosis of rams with manifestations of orchitis-epididymitis. Veterinariia 38 (1961) 9: 40-43.
(From the Dagestan SR Veterinary Station.)

The authors of this article, the details of which must be studied in the original text or in a translation, described numerous instances of orchitis-epididymitis in rams due to infection with Corynebacterium pseudotuberculosis ovis and added that they had been able to produce this syndrome in animals they had infected subcutaneously with cultures of this organism isolated from naturally affected rams.

759. Shamatava, V. P., Comparative efficacy of antibiotics in pasteurellosis. Veterinariia 38 (1961) 9: 70-73.
(From the Georgian Zooveterinarian Teaching and Research Institute.)

The conclusions of the author were that

- (1) Terramycin is the best remedy for treating pasteurellosis of agricultural animals and its price is economically adequate. The treatment of an animal with a mean weight of 100 kg costs not more than 1 ruble.
- (2) An increase of the single doses of terramycin from 5 to 10 mg/kg prolongs the persistence of the compound in the blood and increases its concentration and as a result in most cases there is no necessity for a repeated injection.
- (3) The use of terramycin in animals with clinical signs of the disease and with manifestations of septicemia does not interfere with the appearance of an immunity.

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- (4) Terramycin treatment is administered according to the following scheme:

The first injections are made intravenously and intramuscularly with doses of 10 mg/kg each of a 3-5% watery solution prepared ex tempore. If the temperature of the animals remains high during the following 24 hours, one administers once more intramuscularly a dose of 5 mg/kg. If treatment is started at the onset of the disease it suffices to administer intramuscularly one dose of 10 mg/kg.

- (5) In the absence of terramycin and penicillin one may use biomycin and streptomycin for the treatment of the pasteurellosis-affected animals.

Biomycin is best administered intramuscularly in a 0.5% solution of novocaine in two daily doses of 10 mg/kg daily; streptomycin is given intramuscularly in doses of 2-6 thousand units per kg of the body weight of the animals.

760. Trishkina, E. T., Erythromycin in bacillary erysipelas and pasteurellosis of pigs. Veterinariia 38 (1961) 9: 73-76. (From the All-Soviet Institute of Experimental Veterinary Medicine.)

The Soviet-produced antibiotic erythromycin, available in water-soluble form, was found suitable for the treatment of the two infections mentioned in the title.

761. Khankishiev, A. M., Serological diagnosis of listeriosis of the cattle. Veterinariia 38 (1961) 9: 30-31. (From the Inter-Raion Veterinary-Bacteriological Laboratory in Sabirad, Azerbaidzhan SSR.)

Quoted by title.

762. Izmerov, N. F. and Nedogibchenko, M. K., Information on the problem of the sanitary protection of the atmospheric air in the USA. Gig. i san. 28 (1963) 12: 87-95.

This is a report on the impressions gained by outstanding Soviet public health experts during a recent visit to the United States.

763. Khundanov, L. E. et al., Observations on the combined treatment of experimental melioidosis. Veterinariia 38 (1961) 10: 55-57.
(From the Irkutsk State SR Anti-Plague Institute for Siberia and the Far East.)

Quoted by title.

764. Poplaukhin, S. G., Observations on the length of survival of the foot-and-mouth disease virus in the slaughter products of cattle. Veterinariia 38 (1961) 10: 70-71. (From the Department of Epizootology of the Altai SR Veterinary Station.)

The observations of the author indicated a month-long survival of the foot-and-mouth disease virus in some slaughter products, particularly in bones, kept at temperatures from 4⁰ to -14⁰C.

765. Pritulin, P. I., Observations on the aerogenous immunization of animals. Veterinariia 38 (1961) 11: 19-23.

The author found that aerogenous infection of various test animals with salmonellae produced a more solid immunity than subcutaneous or enteral infection. It seemed indicated, therefore, to study the possibility of using the aerogenous route for the immunization of animals.

766. Bedenashvili, G. G., Observations on the nervous form of cattle pasteurellosis. Veterinariia 38 (1961) 11: 26-27.
(From the Georgian Zooveterinarian Teaching and Research Institute.)

This article deals briefly with some instances in which pasteurellosis infection of cows led to an affection of the central nervous system.

767. Tevosov, A. M., Influence of pregnancy on the production of an immunity in cows vaccinated against brucellosis. Veterinariia 38 (1961) 11: 27-28.
(From the Azerbaidzhan SR Veterinary Institute.)

Large-scale observations showed that pregnancy did not exert an untoward influence on the production of an immunity

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in cows vaccinated against brucellosis. The immunization of pregnant cows against this infection was therefore permissible under emergency conditions.

768. Ivanov, A. D., Measures of the fight against brucellosis and some problems of the epizootology and diagnosis of this disease. Veterinariia 38 (1961) 11: 49-53.

The author of this review dealt briefly with the following articles:

- 1) Konovalov, A. I. and Valsov, A. G., Observations on the anti-brucellosis vaccination of cows and heifers on farms free from this infection and on the peculiarities of the brucella strains isolated from the immunized animals. Veterinariia 38 (1961) 11: 49-50.
(From the Veterinary-Bacteriological Laboratory of the Vologda Oblast.)

In the concluding paragraph of this note it is stated that

"abortions of vaccinated cows are due to a brucellosis infection of the animals before immunization. The brucella strains isolated from the fetuses of cows aborting after vaccination showed a lowered virulence or were avirulent dissociants."

- 2) Likhanov, S. F. (Novorzhev Raion, Pskovsk Oblast), Experience on the eradication of brucellosis in farms with the aid of vaccine prepared from the strain 19. Veterinariia 38 (1961) 11: 50.
- 3) Kachalov, A. A. et al. (Dnepropetrovsk Oblast), Experience on the freeing of farms from brucellosis with the aid of vaccination. Veterinariia 38 (1961) 11: 50-51.
- 4) Pavlenko, N. K. and Danilichenko, N. I. (Semnovsk Raion, Poltava Oblast), Immunization of cattle with a vaccine prepared from the strain 19 as a method of freeing the farms from brucellosis. Veterinariia 38 (1961) 11: 51.

The authors of the latter three articles quoted were unanimous in stating that vaccination systematically used some years hand in hand with sanitary measures led to a disappearance of brucellosis.

- 5) Semeniuk, R. K., The epizootological brucellosis situation on infected cattle farms more than two years after re-vaccination

with a vaccine prepared from the strain 19. Veterinariia 38 (1961) 11: 51. (From the Armavir Veterinary-Bacteriological Laboratory.)

The author came to the conclusion that re-vaccination of the cattle against brucellosis one year after the initial immunization exerted a favorable action in respect to the disappearance of the disease and the cessation of abortions.

- 6) Darvishev, K. D., Serological peculiarities of the body of cattle affected by brucellosis and of healthy animals immunized with the vaccine prepared from the strain 19. Veterinariia 38 (1961) 11: 51-52. (From the Uzbek SR Veterinary Institute.)
- 7) Rotov, I. V. and Cheremisin, G. G., Dynamics of the immunobiological reactions in sheep immunized with the vaccine prepared from the strain 19. Veterinariia 38 (1961) 11: 52. (From the Checheno-Ingush SR Veterinary Station.)

These two articles do not lend themselves to the purpose of brief reviews.

- 8) TSeluikin, A. and Kuranov, IU., The early prophylaxis of brucellosis in agricultural animals--the basis of the fight against this disease. Veterinariia 38 (1961) 11: 52. (From the Sanitary-Epidemiological and the Scientific-Manufacturing Veterinary Laboratory of the Orenburg Oblast.)

Because of their observations the authors proposed the following modifications of the instructions for the fight against brucellosis:

While the complement fixation test is the fundamental method for mass examinations of sheep, slide agglutination tests ought to be used for a rapid diagnosis. Vaccination ought to be considered as the principal prophylactic method.

- 9) Kuliev, A. B., Epizootological importance of sheep reacting to various tests with brucellosis. Veterinariia 38 (1961) 11: 52. (From the Azerbaidzhan SR Veterinary Institute.)

In this quite brief note two subsequent tests with "brucellizate" are recommended for the diagnosis of brucellosis in sheep.

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- 10) Posokhin, E. G., Rationalization of the method of differential diagnosis of the brucella types.
Veterinariia 38 (1961) 11: 52-53.
(From the SR Veterinary Station of the Stavropol Krai.)

This article has been referred to already on page 382 supra.

- 11) Kuliev, A. A., The ring reaction for the diagnosis of brucellosis in lactating buffaloes.
Veterinariia 38 (1961) 11: 53.
(From the Azerbaidzhan SR Veterinary Institute.)
- 12) Tevosov, A. M., The ring reaction in the diagnosis of brucellosis in lactating cows of farms free from the disease.
Veterinariia 38 (1961) 11: 53.
(From the Azerbaidzhan SR Veterinary Institute.)

The technique of the test mentioned in the titles of these two articles is not described.

769. Tevosov, A. M., Contribution to the problem of the serological diagnosis of brucellosis.
Veterinariia 38 (1961) 11: 53.
(From the Azerbaidzhan SR Veterinary Institute.)

This brief note must be consulted in the original or in a translation of the text, which does not lend itself to the purpose of condensation.

770. Shur, I. V. et al., Observations on the sanitary evaluation of the meat of brucellosis-affected sheep.
Veterinariia 38 (1961) 11: 60-65.
(From the Laboratory of Microbiology and Meat Evaluation of the All-Soviet SR Institute of Meat Industry.)

The authors of this article, which is unsuitable for a brief review, discuss and recommend regulations for handling sheep from brucellosis-affected farms and the carcasses and meat of such animals.

771. Karkadinovskaia, I. A. et al., Observations on the improvement of the serological diagnosis of cattle brucellosis.
Veterinariia 38 (1961) 11: 73-76.
(From the Leningrad Veterinary Institute.)

The conclusions reached by the authors of this important article were that:

"1. Agglutination reactions made with 12% saline solutions permit to detect in the (brucellosis) infected farms more positively reacting animals than is possible with complement fixation tests and agglutination tests made with normal saline.

2. A substantial drawback of the complement fixation reaction in cattle brucellosis consists of the presence of a zone phenomenon (in 16.5%) which necessitates the performance of this test not only in dilutions of 1:5 to 1:10, but also in higher dilutions up to 1:640. Such a modification renders the method technically laborious and altogether unsuitable for mass examinations.

3. It is indicated to use for the serological diagnosis of cattle brucellosis only agglutination reactions with 12% saline in place of the presently used two reactions--complement fixation tests and agglutination tests made with 0.85% saline solutions....

The agglutination reaction in 12% saline solution is not less sensitive than the complement fixation reaction and easier to perform.

4. According to our observations a diagnostically suitable titer for the blood sera of cattle from brucellosis affected farms is a dilution of 1:20. When evaluating the reactions, it is necessary to exclude doubtful results."

772. Kusnetsov, N. G., Sheep listeriosis in the Komi ASSR. Veterinariia 38 (1961) 11: 31-33.
(From the Izhmo-Pechorsk SR Veterinary Station.)

773. Parakin, V. K., Abortions of sheep in foot-and-mouth disease. Veterinariia 38 (1961) 11: 33-34.
(From the Rostov SR Veterinary Station.)

These two articles are quoted by title.

774. Blinov, P. N., A natural focus of Q-fever in the vicinity of Saratov. Veterinariia 38 (1961) 12: 19-20.

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As described in this article, in the spring of 1960 forty patients with Q-fever were hospitalized in the suburban zone of Saratov and moreover complement fixation tests with the sera of inhabitants of the affected locality gave a positive result in 67 instances. Apart from dogs and cats the inhabitants kept no domestic mammals, but bred ducks, geese and pigeons. While an examination of the sera of a few dogs and cats gave a negative result, positive findings were obtained with sera from the domestic birds and also with those of wild pigeons.

It was assumed that Q-fever had been imported into this focus through migrating wild rodents. Actually complement fixation tests with the sera of some such animals gave positive results and the same held true of the sera of 50% of the house mice caught in buildings where Q-fever patients had been found. Complement fixation tests with the sera of 189 heads of cattle kept in settlements round the focus gave in 4 instances only a weakly positive result. The author claimed, therefore, that Q-fever was not widely spread in the Saratov Oblast.

775. Ulasevich, P. S., Prolonged complement fixation tests for the diagnosis of brucellosis in sheep. Veterinariia 38 (1961) 12: 60-61.
(From the All-Soviet Institute of Experimental Veterinary Medicine.)

In the experience of the author prolonged complement fixation tests in the cold gave results superior to those obtained with the sera of brucellosis-suspect sheep in the usual manner.

The article contains no details regarding the technique of the complement fixation test recommended by the author.

776. Aleksandrov, N. A., Observations on the laboratory diagnosis of pasteurellosis in pigs. Veterinariia 38 (1961) 12: 61-62.

Comparing the results obtained with the examination of smears from the blood and internal organs of pasteurellosis-infected pigs, cultural tests and animal experiments, the author found that bacterioscopy led to a diagnosis in only about 50% of the animals proved to be affected with the aid of the other two methods. The slide examinations gave negative results particularly in young animals, in which the disease was quickly fatal.

777. Pomanskaia, L. A., Length of survival of listeriae in the external environment. Veterinariia 38 (1961) 12: 21-24. (From the Sanitary-Epidemiological Station of the Tula Oblast.)
778. Vanenkov, M. V., Listeriosis of sheep and the efficacy of the formol-precipitated anti-listeriosis vaccine. Veterinariia 38 (1961) 12: 26-27. (From the Veterinary Department of the Agricultural Directorate of the Aktiuba Oblast.)
779. Vinogradov, V. IA., Listeriosis of lambs with an affection of the lips. Veterinariia 38 (1961) 12: 27-28. (From the Omsk Trust of Grain-Producing Sovkhozes.)

These three articles are quoted by title.

780. Bliakher, S. L. and Kharlova, G. B., Regeneration of the spleen after the changes caused by the administration of the live anti-plague vaccine. Biul. eksp. biol. 52 (1961) 8:105-110. (From the Laboratory of Immunology of the Moscow Institute of Microbiology, Epidemiology and Hygiene and from the Laboratory of Growth and Development of the Institute of Experimental Biology, AMS, USSR, Moscow.)

As described in this illustrated article, the authors immunized white mice by the intravenous route with doses of 2,000 organisms of the EV strain, resected part of the spleen 12 days after the vaccination and again examined this organ when sacrificing the animals 40 days after the immunization. It was found that

"12 days after the introduction of the vaccine the spleen was markedly changed. Its dimensions exceeded 2-2.5 times those in the control animals. The spleen was filled with whitish firm polymorphous nodules. Melting together, these nodules replaced the tissue of the spleen which was preserved in the form of red specks, occupying not more than 15-20% of the whole tissue of the organ."

28 days later, when the animals were sacrificed, the spleen showed a structure very similar to that normally observed.

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781. Melzobs, M. IA. et al., A simple apparatus for the artificial respirations of laboratory animals.
Biul. eksp. biol. 52 (1961) 8:124-125.
(From the Pharmacological Department of the Riga MI.)

This illustrated note can be mentioned by title only.

782. Shipitsina, G. K. et al., Further study of the specific substances of the tularemia bacillus causing a rapid allergic reaction. Biul. eksp. biol. 52 (1961) 9: 83-88.
(From the Biochemical Department and the Tularemia Laboratory of the Gamaleia Institute of Epidemiology and Microbiology, AMS, USSR, Moscow.)

The authors of this article which must be studied in detail by workers interested in the immunology of tularemia, (a) studied the allergenic activity of the Fractions II and III of a virulent tularemia strain (obtained through mild hydrolysis) in persons who had suffered from tularemia; and (b) used guinea-pigs to compare the allergenic activity of the antigens obtained by various methods from a virulent and a vaccinal tularemia strain.

The Fractions II and III of the virulent strain proved to be suitable in dilutions of 1:10,000 or more for allergic tests and were recommended by the authors for a rapid diagnosis of tularemia in man.

Referring to the tests in guinea-pigs the authors stated that

"the antigen of the vaccinal strain can be used as a specific agent, quickly causing an allergic reaction. The insignificant content in lipid fractions brings about a lessened reactogenicity of this preparation in comparison with the antigen of the virulent strain and obviates the necessity of a tedious fractionation."

The authors proposed to use the antigen obtained from their vaccinal strain (Gaïskii's reconstituted strain No. 15) for tests in man.

783. Gendon, IU. Z. and Chernos, V. I., The character of the plaques as a genetic trait of the pox group of viruses.
Vop. virus. (1963) 6:676-679.
(From the Moscow SR Institute of Virus Preparations.)

The conclusions reached by the authors of this article were that

"1. In the strains of the group of pox viruses under examination one could observe two types of plaques - transparent ones with even edges and opaque ones with uneven edges. The last mentioned type of plaques is formed by strains with a marked neuropathogenicity for laboratory animals.

2. In contrast to the strains of vaccinia, cowpox and rabbit-pox, the ectromelia virus strains forms small plaques and is not able to form plaques at 38°C. The smallpox and alastrim strains were unable to form plaques on cultures of chicken fibroblasts at 36° and 38°C. None of the strains under examination formed plaques at 40°C.

3. The differences observed in the strains under examination in regard to the formation of plaques, their dimensions and character continued to be manifest during the process of passage through tissue cultures, chick embryos and animals. This indicates a genetic nature of these traits."

784. Al'tshtein, A. D., Study of the acute and chronic infections produced by the tick-borne encephalitis virus in tissue cultures. Report I. The early stages of the interaction of the tick-borne encephalitis virus with the cells.
Vop. virus. (1963) 6:707-712.

785. Abakian, A. A. et al., Study of the acute and chronic infections produced by the tick-borne encephalitis virus in tissue cultures. Report II. Dynamics of the accumulation and mechanism of the spread of the tick-borne encephalitis virus in tissue cultures. Ibidem, 713-719.

The results of the observations recorded by the authors of these two well documented articles must be studied in the original texts or in translations of them.

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A. Annotations

- 1) Gil'manova, G. Kh. et al., Comparative characterization of the hemagglutination inhibition reaction, the neutralization reaction and the complement fixation reaction in tick-borne encephalitis. Vop. virus. (1963) 6: 737.
(From the Kazan SR Institute of Epidemiology and Hygiene and the Republican Sanitary-Epidemiological Station, MH, RSFSR.)

The text of this brief note reads as follows:

"It was established that the hemagglutination inhibition reaction is less sensitive in persons who had suffered from tick-borne encephalitis than the neutralization reaction. In patients suffering from tick-borne encephalitis the hemagglutination-inhibiting antibodies appear in the blood earlier than the complement-fixing antibodies. The hemagglutination inhibition reaction was negative in 14% of the cases with a positive complement-fixing reaction and in 25.5% produced immunological shifts in patients with a negative complement fixation reaction. For a more complete serological confirmation of the diagnosis of tick-borne encephalitis a simultaneous use of these reaction is indicated."

- 2) Dubov, A. V., Isolation of the tick-borne encephalitis virus in the tissue culture of an angiosarcoma. Vop. virus. (1963) 6: 737.
(From the Microbiological Department of the Novosibirsk MI.)

In this brief note it is stated that

"The use of tissue cultures from the fibroblasts of human embryos and from the cells Detroit-6 considerably facilitates virological investigations and obviates the possibility of an isolation of spontaneous mouse viruses. Still, about 5-6 passages are necessary for the isolation of the viruses in these cultures. The use of a tissue cultures of a human angiosarcoma (strain 709) permitted an observation of the cytopathic action of the tick-borne

encephalitis virus already in the first passage. A maximum of 2-3 weeks was needed for the isolation and identification of the virus."

- 3) Vil'ner, A. M. et al., A staged method for the inactivation of the culture virus of tick-borne encephalitis with formol at 37° for the production of a vaccine. Vop. virus. (1963) 6: 738.
(From the Institute of Poliomyelitis and Virus Encephalides, AMS, USSR, Moscow.)

This brief note states in part that

"According to the staged method the formol is partly added immediately to the infected cultures, what brings about their disruption and a transition into the medium of cells and substances which, apparently, impede the inactivation of the antigenic properties of the virus under the influence of formol."

- 4) Mel'nikova, E. E. and Obukhova, V. R., The inactivation of the viruses of tick-borne and Japanese encephalitis in cultural complement-fixing antigens. Vop. virus. (1963) 6: 738.
(From the Laboratory for the Indication and Diagnosis of Viruses of the D. I. Ivanovskii Institute of Virology, AMS, USSR, Moscow.)

Testing various methods for the inactivation of the infectious properties of the complement-fixing cultural antigens against tick-borne and Japanese encephalitis, the authors recommended as most suitable treatment with beta-propiolactone in concentrations ranging from 0.07 to 0.1% and a 50 minutes exposure to the photodynamic action of methylenblue in a concentration of 1:1,000,000.

- 5) L'vova, A. I. and Gaidamovich, S. IA., Contribution to the problem of the multiplication of the Japanese encephalitis virus in tissue cultures. Vop. virus. (1963) 6: 738.
(From the Laboratory for the Indication and Diagnosis of Viruses of the D. I. Ivanovskii Institute of Virology, AMS, USSR, Moscow.)

The authors stated that

"The antigen of the Japanese encephalitis virus was demonstrated in the infected

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cells of cultures of the kidney epithelium of sheep embryos with the aid of the indirect method of fluorescent antibodies. The localization of the antigen and the dynamics of the picture of fluorescence, particularly before the disruption of the cells, were analogous to what had been observed in the case of tick-borne encephalitis. Parallel tests with the method of fluorescent antibodies and the hemagglutination and complement fixation reactions showed that the first mentioned method permitted the most rapid detection of the virus. The appearance of the fluorescence in the cells depended upon the dose of the virus."

B. Mentioned by title

- 6) Zalkind, S. IA. et al., Comparative cytological analysis of the action of the vaccinia and poliomyelitis vaccines and of the adenovirus on the cells of the surviving lines of monkey lymphoid tissue. Vop. virus. (1963) 6: 743.
(From the Moscow SR Institute of Virus Preparations.)
- 7) Kamalian, L. A. and Ter-Pogossin, R. A., Study of tissue cultures irradiated with X-rays and infected with vaccinia virus with the aid of luminescent microscopy.
Vop. virus. (1963) 6: 743.
(From the Section of Radiology, AS, Armenian SSR.)

786. Vashkov, V. I., Modern means of the fight against arthropods of medical importance. Zh. mikrobiol. (1963) 12: 3-8.
(From the Central SR Disinfection Institute, MH, USSR.)

This survey must be studied in the original or in a translation of the text.

787. Aleksandrov, N. I. et al., A study of the method of aerosol immunization of large groups of people with powdered plague vaccine. Zh. mikrobiol. (1963) 12: 22-28.

Aerosol immunization of a total of 716 persons with a plague vaccine prepared from the EV strain led the authors of this article to the following conclusions:

- (1) Single aerosol administrations of the powdered plague vaccine produced slight general reactions.

- (2) Twice repeated aerosol vaccination, administered at an interval of 5 days, led to somewhat more marked reactions. However, these were considerably slighter than those resulting from subcutaneous vaccination.
- (3) Cutaneous anti-plague inoculation produced general reactions corresponding in their frequency and intensity to those following single aerosol administrations of the vaccine, but caused considerably more marked local reactions.
- (4) The most marked serological and allergic shifts were noted in the persons who had been vaccinated twice. Under these circumstances aerosol immunization proved immunologically as effective as the subcutaneous method of vaccination. The immunological efficacy of once or twice administered cutaneous inoculation was lower than that of aerosol immunization or subcutaneous vaccination.
- (5) It is indispensable to make further and more profound comparative studies of the merits of these three methods of immunization.

788. Levi, M. I. et al., Results obtained with passive hemagglutination tests and antibody neutralization tests in the epizootological examination of wild rodents for plague. Author's Abstract. Zh. mikrobiol. (1963) 12:118-119.
(From the Rostov and the Central-Asiatic Anti-Plague Institute and from several anti-plague stations.)

Commenting upon the results obtained through an examination of over 27,000 rodents the numerous authors of this note stated that

"the investigations made confirmed the potentialities and the adequacy of using the passive hemagglutination reaction and the antibody neutralization reaction for the observation of plague epizootics. A large-scale use of these reactions for a few years might be sufficient for a delimitation of the affected territory, while sometimes decades may be needed to achieve this with the aid of bacteriological methods alone."

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789. Suchkov, IU. G., Serological examinations in plague. Report XIV. Evaluation of some serological reactions in the epizootological observation of natural plague foci. Zh. mikrobiol. (1964) 1:135-141.
(From the SR Anti-Plague Institute in Rostov-on-Don.)

Observations in the Volga-Ural focus led the author to the following conclusions:

- (1) It is possible to use the passive hemagglutination test and the antibody neutralization test with formalized erythrocytes under field conditions for the observation of plague in wild rodents.
- (2) It has been established that wild rodents with plague antibodies in their blood considerably outnumber the specimens from which P. pestis can be isolated.
- (3) Apparently the results of the passive hemagglutination test may be used to determine the intensity and the presumable length of the epizootics. Analogous observations may be made in young animals with the aid of the antibody neutralization test.
- (4) The antibody neutralization test may be used with advantage for the examination of the carcasses of animals succumbing to experimental infection and of decayed specimens, when it is difficult or even impossible to obtain positive results with bacteriological examinations. The reaction is also useful under other circumstances in which a rapid diagnosis of plague is required.

790. Fedorova, N. I., The position of Q-fever in the classification of infectious diseases. Zh. mikrobiol. (1963) 12: 65-68.
(From the Gamaleia IEM, AMS, USSR.)

The author of this article postulated that Q-fever ought to be classified as a zoonosis.

791. Fedotova, IU. M., Comparative investigations of a virulent and a vaccinal strain of Francisella tularensis in tissue cultures of the human embryo. Zh. mikrobiol. (1963) 12: 84-88.
(From the Gamaleia IEM, AMS, USSR.)

The author of this article which is illustrated by six well executed microphotographs, came to the following conclusions:

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- (1) Both the virulent and the vaccinal tularemia bacilli penetrate into the cells of the human embryonal tissue cultures and multiply in the cytoplasm.
- (2) The intracellular multiplication of the virulent organisms leads to a disruption of the cell nuclei whereas in the case of the vaccinal strain the nuclei continue to show a normal appearance.
- (3) In the places where the tissue culture cells have been destructed there form foci of multiplication of the tularemia bacilli, the center of which becomes eventually necrotized. Such foci form later in the case of the vaccinal organisms and are characterized by less marked disruptions of the tissue.
- (4) Hand in hand with these processes one can observe in the foci a firm fixation of the organisms on the surface of the cells and a lysis of a part of the affixed organisms irrespective of their virulence.

792. Zaporozhchenko, A. IA., Observations on the epidemiology and clinique of anthrax. Author's Abstract.
Zh. mikrobiol. (1963) 12:117-118.
(From the All-Soviet SR Institute of Railway Hygiene of the Ministry of Communications.)

This brief note, dealing with observations in 14 patients suffering from cutaneous anthrax and 4 patients showing the signs of the intestinal form of the disease does not lend itself to the purposes of a summary.

793. Taran, I. F. et al., Characterization of the immunity caused by cutaneous vaccination and re-vaccination with a vaccine prepared from the strain Br. abortus 104-M. Report III. State of the immunity after repeated re-vaccinations with a vaccine prepared from the strain Br. abortus 104-M according to observations in guinea-pigs.
Zh. mikrobiol. (1964) 1: 77-81.
(From the Anti-Plague Institute of the Caucasus and Transcaucasus.)

Summarizing their findings in the concluding paragraph of their text, the authors stated that

"though through bacteriological examinations made after a repeated administration of the

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vaccine the presence of an immunity was established, the profound patho-morphological changes in the lymph nodes and in the internal organs showed that the repeated introduction of the vaccine was not by any means harmless for the animals. In view of the development of not reparable changes after repeated re-vaccinations the macroorganism will be hardly capable of offering a sufficient resistance when afterwards meeting with the agents of other infections. Taking into account the high susceptibility of guinea-pigs to brucellosis infection, we are not inclined fully to apply the results of our observations to man. Still, these data indicate the importance of ascertaining the innocuousness of repeated vaccinations for man."

794. Balandin, G. A. and Sazykin, S. P., Observations on the post-vaccinal pathergy in brucellosis. Report II.
Zh. mikrobiol. (1964) 1: 81-84.
(From the SR Anti-Plague Institute in Rostov-on-Don.)

The authors concluded from their findings, the details of which must be studied in the original or in a translation, that it was indispensable to ascertain before re-vaccination against brucellosis the allergic state of the persons to be immunized and to exclude those showing a positive allergic reaction from the repeated administration of the vaccine.

795. Lavrovskaja, V. M. and Blant, M. E., Study of the cholera antigen. Report IV. Influence of the original culture of the cholera vibrio on the amount and the specific activity of the antigenic complexes.
Zh. mikrobiol. (1964) 1:108-112.
(From the Gor'kii IEM.)

Quoted by title.

(Report I of this series appeared in 1959 in the Sbornik trudov mezhhinstitutskoi konferentsii "Assotsirovannai vaktsinatsii;" Reports II and III in the Sbornik trudov Gor'kovskogo instituta epidemiologii i gigieny [1959] Installment III.)

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796. Sokolov, M. I., Directed variability of the influenza virus under the influence of the temperature.
Vop. virus. (1963) 6:692-697.
(From the D. I. Ivanovskii Institute of Virology, AMS, USSR.)

The authors found it impossible directly to adapt the influenza virus A2 to growth at 22-28°C. However, a stepwise adaptation of the virus to growth at these low temperatures could be accomplished.

797. Podcherniaeva, R. IA. and Sokolov, M. I., Hybridization of the influenza viruses. Report II. Study of the properties of the influenza virus hybrids.
Vop. virus. (1963) 6:697-700.
(From the D. I. Ivanovskii Institute of Virology, AMS, USSR.)

As the authors stated, it was possible to obtain with the aid of hybridization and subsequent selection regularly stable hybrids of the influenza virus A2 which possessed simultaneously the properties of the influenza viruses A and A2.

798. Zhukov-Verezhnikov, N. N. et al., Observations on the nature and significance of bacteriophagy. Report XIII. Ultra-thin sections of phages. Methodology and preliminary findings. Biul. eksp. biol. 52 (1961) 10: 78-79. (From the Department of Immunology of the Institute of Experimental Biology, AMS, USSR.)

This illustrated brief article can be mentioned by title only.

799. Sakharov, P. P. et al., Study of the transforming action of streptomycin resistance in pathogenic microorganisms. Biul. eksp. biol. 52 (1961) 10: 80-81.
(From the State SR Ear, Nose and Throat Institute and the M. V. Lomonosov Moscow State University.)

The results of observations made by the authors of this article on streptomycin-fast strains of Listeria monocytogenes, Salmonella typhi murium and Streptococcus hemolyticus must be studied in the original or in a translation of the text.